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Julie A. Bowser

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Walden University
2020

Abstract

Recovering Illicit Substance Users' Perspective About Mandatory Drug Testing
in Schools

by

Julie A. Bowser

MSN, Walden University, 2010

CSN, Carlow College, 1998

BSN, Messiah College, 1990

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Nursing Education

Walden University

August 2020

Abstract

The purpose of this exploratory qualitative study was to examine recovering substance abusers' perceptions about the usefulness of mandatory drug testing in schools for adolescent substance abuse. Illegal substance abuse has reached epidemic proportions as more than half of U.S. adolescents, aged 12 to 17 years, have engaged in illicit drug use. Substance abuse information has been a part of school health education programs since the United States Drug Free Schools and Communities Act of 1986. Despite substance abuse education and school programs about the effects of drug use, many high school students abuse illicit drugs. Face-to-face interviews were conducted with 17 recovering substance abusers between the ages of 24 to 58 years who were at least 3 years substance free. Participants were voluntarily recruited from Narcotics Anonymous locations in Central Pennsylvania using purposeful sampling techniques. Guided by Pender's health promotion model, data were analyzed by coding techniques using direct quotations from the participants to identify common themes. A majority of the participants reported initiating illicit substances during adolescence. Also, participants stated that mandatory drug testing in school would have prevented or postponed their substance use. Most of the participants reported mandatory drug testing in school as an effective drug prevention method, or in combination with other methods. These findings may inform school districts and health care providers about the effects of mandatory drug testing and additional substance abuse prevention methods in schools for adolescents in Central Pennsylvania. The results can also be used to influence state and national school substance abuse policies in Pennsylvania and across the United States.

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Chapter 1: Introduction to the Study

Introduction

Substance abuse remains a growing concern for the United States and abroad (Fitzgerald & Sowards, 2002; National Institute on Drug Abuse, 2017; Pierce et al., 2015). In addition to existing as an individual chronic health condition, substance abuse causes family crises and public health issues, as well as criminal justice concerns (Oesterle et al., 2018). One of the goals of Healthy People 2020 is to reduce substance abuse to protect the health, safety, and quality of life for all, especially children (National Institute on Drug Abuse, 2017). To determine what are effective strategies to reduce substance abuse among adolescents, mandatory drug testing (MDT) in schools must be investigated.

I explored the perspective of recovering illicit substance abusers, and I provided insight into what age they started to use illicit substances and if MDT was required in their school. I also examined whether mandatory testing would have prevented them from initiating substance use. Prior substance abusers gave valuable answers to what would be the most successful methods for drug prevention and recovery. This research is unique and warranted as the results may inform the federal and state governments, school boards and administrators, parents, and those working with recovering substance abusers about the viability of mandatory drug testing in the public school setting. Perhaps if illicit substances use could be postponed as a teen, the chances that the individual would initiate illicit substances would be decreased as well. In this chapter, I will discuss background research and the research problem, the purpose of the study, research

questions, theoretical framework, nature of the study, definitions, assumptions, scope, limitations, and the significance of the study.

Background

There is a plethora of literature related to drug testing in schools; however, much of the research is gathered from student responses to surveys and student and community opinions to drug testing in schools (DuPont, Campbell, Campbell, Shea, & DuPont, 2013; Hedrich et al., 2011; Sharma & Branscum, 2013). A limitation to the much of the research is student truthfulness on the surveys regarding their drug use. There were only two studies found in which drug testing was conducted prior to and after initiating a drug-testing program in school to evaluate the effectiveness of a drug testing program at school (Adelson et al., 2017; Nelson, Rose, & Lutz, 2011). Cates and Hogue (2012) provided information of a drug-screening program in a pharmacy school and found a decrease in drug use among students following initiation of the program. Brown (2009) addressed the role of drug testing programs in Australia and the United Kingdom and found that most communities are opposed to drug testing. Ringwalt et al. (2009) focused on the positive result of a drug test in school and determined that a nonpunitive strategy is most appropriate. Steiker, Powell, Goldbach, and Hopson (2011) found that youth who are already using substances are difficult to reach through any substance related intervention and are most effective to engage in the prevention efforts and curriculum as experts in the field.

There is a gap in the literature about the experiences of recovering substance abusers on mandatory drug testing in middle and high school settings as an effective way to delay or stop substance use and subsequent abuse among adolescents. Their opinion is

important to understand if MDT would have prevented or postponed their substance abuse initiation as an adolescent; then, perhaps, MDT in schools could prevent or postpone the substance abuse epidemic among adolescents.

Problem Statement

Approximately 65.5% of American adolescents aged 12 to 17 years old have engaged in illicit drug use (National Institute on Drug Abuse, 2017). Nine in 10 people who meet the clinical criteria for substance use disorders involve nicotine, alcohol, or other drugs began smoking, drinking, or using illicit drugs before they turned 18 years old (Columbia University, 2011). Substance abuse information has been part of school health education programs since the United States Drug Free Schools and Communities Act of 1986 (Collins & Small, 1995). Even with substance abuse education and school programs about the effects of drug use, more than half of all high school students have abused illicit drugs (Johnson, O'Malley, Miech, Bachman, & Schulenberg, 2016). Substance abuse prevention methods, such as mandatory drug testing in schools, must be researched and initiated for the health, safety, and welfare of youth. Research has been conducted about the beliefs of adolescents and their parents on the effectiveness of drug testing programs in school (Clark, 2010; Morton, Hoefinger, Walton, Aikins, & Falkin, 2015). There are also quantitative studies about the before and after results of implementing drug testing programs in schools as reported by the students (DuPont, Merlo, Arria, & Shea, 2012; National Institute on Drug Abuse, 2017). However, there is a gap in the literature about the experiences of recovering substance abusers and if they believe MDT in middle and high school settings is effective as a way to delay or stop their substance use and subsequent abuse when they were an adolescent.

Substance abuse leads to poor health, involvement in crimes, physical and domestic abuse, intimate partner violence, driving accidents, and increased health care needs (Sharma & Branscum, 2013; Smith, Greenman, Thornberry, Henry, & Ireland, 2015). Drug treatment facilities and correctional institutions are at maximum capacity mainly due to actions resulting from illicit substance use (Welsh, Zajac, & Bucklen, 2014). Substance abuse costs on average \$740 billion dollars each year in health-related conditions and treatment related to crime, lost work productivity, and health care expenses (National Institute on Drug Abuse, 2017). Teen users are at a significantly higher risk of developing an addictive disorder compared with adults, and the earlier they begin using, the higher their risk of becoming addicted (Columbia University, 2011). Other than substance abuse information given to adolescents in school assemblies, health class, and during Red Ribbon Drug Prevention Week, there are no other techniques offered in most schools to assist adolescents to refrain from illicit drug use (Sharma & Branscum, 2013). Therefore, it is essential to explore alternative methods to drug prevention in schools to delay the use of drugs during adolescence. Perhaps if illicit substance use could be postponed as a teen, the chances that the individual would initiate illicit substances would be decreased as well.

Purpose of the Study

The purpose of this study was to explore the usefulness of mandatory drug testing in public schools as an illicit substance abuse prevention measure for adolescents from the perspective of prior substance abusers. There is no literature addressing the perspective of recovering substance abusers about mandatory drug testing in schools. To address this gap, I conducted an exploratory qualitative study to understand the

perspective of recovering substance users about mandatory drug testing in schools as substance abuse prevention and behavior modification. The perspectives of prior substance abusers have not been studied regarding mandatory drug testing in schools. This study will address the gap by attempting to gain the perspective of prior substance users as to what would have aided in preventing them from initiating illicit substances. Prior substance abusers gave valuable answers as to what would be the most successful methods for drug prevention and recovery. I collected data from face-to-face interviews with recovering substance abusers, ages 24 to 58 years, to gain an understanding of the participants' perspectives about mandatory drug testing in schools.

Research Questions

1. At what age did recovering substance abusers first initiate substance use?
2. What are the perceptions of recovering illicit substance abusers about mandatory drug testing in schools as a deterrent for adolescents initiating substance use and would it have prevented their substance abuse?
3. What is the most effective method for substance abuse prevention and recovery for adolescents?

Theoretical Framework

The theoretical framework for this qualitative exploratory study was Pender's (2011) health promotion model. It is a middle range theory that has been used frequently in nursing practice. The assumption of this theory is that individuals seek to actively regulate their own behavior. Individuals, in all their biopsychosocial complexity, also interact with the environment by progressively transforming the environment and being transformed over time. Health professionals constitute a part of the interpersonal

environment that has an influence on people through their life span; and self-initiated reconfiguration of the person-environment interactive patterns is essential to changing behavior (Pender, Murdaugh, & Parsons, 2011). This aligns with interviewing recovering illicit substance abusers to understand if drug testing in school may influence the health of adolescents from the perspective of recovering substance abusers. Also, as recovering substance abusers reconfigure the person-environment pattern, drug testing might be an effective means for recovery or prevention from initiating illicit substance use.

Nature of the Study

The nature of this study was a qualitative, exploratory focus. Qualitative research can reveal that which is hidden and what is not known about the phenomenon of interest (McEwen, 2014). When this information is made apparent, a fuller understanding of mandatory drug testing in schools as a deterrent to illicit substance abuse among adolescents may be understood. Keeping the focus on how recovering substance abusers make sense of the drug abuse prevention and recovery effort is consistent with Pender's health promotion model (Pender et al., 2011) by modifying cognitions, affect, and interpersonal and situational influences to create incentives for health promoting behavior. Health professionals constitute a part of the interpersonal environment, which influences individuals throughout their lifespan and self-initiated reconfiguration of person-environment interactive patterns is essential to behavior change (Pender et al., 2011). Drug testing in schools may be an effective method to alter the environment and promote health among adolescents.

To understand this phenomenon of the effect of mandatory drug testing as a deterrent, recovering illicit substance abusers were interviewed in individual, face-to-face

interviews. I collected data by audiotaping, note taking, and NVivo Qualitative Data Analysis software (QSR International, 2018) for verbatim transcription of the interviews. I used hand coding of the interviews via the verbatim transcript using an Excel spreadsheet to discover patterns and themes from the direct quotes of the participants. I also incorporated note taking, journaling, reflecting, and the use of my committee as peer debriefers in the data analysis process.

Definitions

Adolescent: An individual between the ages of 13 to 19 years (Clark, 2010).

Drug test: A technical analysis of urine, blood, saliva, or hair sample to determine the presence or absence of specified drugs (DuPont et al., 2013).

Five panel drug test: A drug test that detects five drugs in a single sample, which is typically amphetamines, methamphetamines, cocaine, cannabis, and opioids (DuPont et al., 2013).

Mandatory drug testing: A drug test that is required by an authority such as an educational setting, employer, military, or community agency (DuPont et al., 2013).

Voluntary drug testing: An individual who voluntarily, or willingly, signs up for a drug test, usually to prove innocence or as a requirement to participate in a school activity (DuPont et al., 2013).

Recovering substance abuser: An individual who has completed treatment and is substance free, although they are not referred to as “recovered” because they will continue to overcome their addiction throughout their lifetime (Welsh et al., 2014).

Illegal substances: Marijuana (in most states), heroin, opium, cocaine, amphetamine, methamphetamine, methylenedioxymethamphetamine, flunitrazepam,

gamma-hydroxybutyrate, ketamine, phencyclidine, lysergic acid diethylamide, mescaline, psilocybin, and anabolic steroids (National Institute on Drug Abuse, 2017).

Substance abuse/misuse: The use of illegal substances, the misuse of prescription medications or not intended for the user, or the misuse of over-the-counter medications (National Institute on Drug Abuse, 2017).

Assumptions

I assumed that recovering substance abusers would agree to participate by discussing their abuse history. I also assumed that the participants would provide honest answers. Last, it is possible that recovering substance users gave valuable information to what was the most effective tool to assist in their substance abuse recovery and what could be a useful strategy to prevent adolescent substance use.

Scope and Delimitations

The research problem is that 65% of adolescents have reported that they have used drugs (National Institute on Drug Abuse, 2017) and nine in 10 diagnosed substance users began using drugs before age 18 years (Columbia University, 2011). Therefore, it is essential to target the adolescent population and determine what the most effective tool is to assist them to remain drug free. I chose a qualitative focus to uncover a deeper understanding from the perspective of recovering substance users to determine if they feel mandatory drug testing in schools would help adolescents remain drug free and what might have kept them drug free. The study population included any gender, any race or ethnic group. Participants had to be English speaking, between ages 24 and 65 years, and drug free for 3 years or more.

Excluded from the study was anyone in a substance abuse treatment program, deaf, or unable to speak. Another delimitation for this study was dismissing the social cognitive theory as a theoretical framework. I investigated the social cognitive theory (Bandura, 1986) but excluded from the study due to the lack of focus on health promotion. The transferability of this study may be useful to all regions across the United States and around the globe due to the documented national and international substance abuse epidemic.

Limitations

The study was limited to recovering substance users of adult age in central Pennsylvania due to availability of participants. Another limitation, due to the sensitive nature of the substance abuse topic, was that the participants may not be truthful in their answers and may be hesitant to participate in the study. I took reasonable measures to address these limitations to assure the participants of confidentiality, discuss the importance of their answers for the study, and keep the participants aware of developments throughout the study.

To limit bias, I used direct quotes from the participants in data collection and coding. Avoiding paraphrasing and refraining from leading the discussion assisted in preventing me from having any influence on the study outcomes and how they were addressed. The use of reflecting, journaling and using peer researchers of my chair and committee also limited bias in the study.

Significance

The findings of this study has the potential to add to the body of scientific literature about mandatory drug testing in schools as a potential substance abuse

prevention measure from the perspective of prior substance abusers. This study filled the gap in knowledge, in that prior substance abusers have not been researched regarding their opinion regarding mandatory drug testing in schools as beneficial for adolescent drug prevention and behavior modification. The research is unique and warranted because the results may inform the federal and state governments, school boards and administrators, parents, and those working with recovering substance abusers about the viability of mandatory drug testing in the public-school setting. Nine in 10 people who meet the clinical criteria for substance use disorders involving nicotine, alcohol, or other drugs began smoking, drinking, or using illicit drugs began before they turned 18 years old (Columbia University, 2011). Therefore, if substance abuse disorders began before the age of 18 years, perhaps mandatory drug testing in schools could prevent it.

By interviewing prior substance abusers, I gained insight was into what age they started to use illicit substances and if mandatory drug testing was required in their school and would it have prevented them from initiating substance use. The research revealed that mandatory drug testing in schools is beneficial for the adolescents as drug prevention, health maintenance, and behavior modification. Prior substance abusers are the primary population for knowledge on what may be effective prevention for illicit substance abuse because they have gone through the recovery process. They were able to discuss their perspective on the best method for substance abuse prevention and recovery. Recovering substance abusers had valuable information about what helped them to get clean and refrain from continuing to use illicit substances.

Recovering substance abusers provided insight into at what age they began using substances and if mandatory drug testing in school would have been a deterrent. This was

significant if most prior substance abusers indicate that they initiated substance abuse during their adolescent years and it progressed to an addiction in early adulthood; then, perhaps mandatory drug testing in school could have prevented their initial sampling of illicit substances. From the findings of the mandatory drug testing in schools study, positive social changes can be made by using the results and implementing guidelines, procedures, policies, and laws to improve the global substance abuse epidemic.

Summary

This mandatory drug testing in schools' study has the potential to positively affect social change with the illicit substance abuse epidemic both nationally and globally. By uncovering the perspective of recovering substance abusers if mandatory drug testing in middle and high school would have deterred them from initiating illicit substances, then it may be warranted as a practice in middle and high schools, in the workplace, and with recovering illicit substance abusers to deter them from using illicit substances. If adolescents and adults are deterred from using illicit substances, potentially the illicit substance abuse epidemic could be improved.

This mandatory drug testing in schools' study has the potential to provide guidance on effective substance abuse prevention strategies, both nationally and internationally. In Chapter 2, I will convey further details about the theoretical framework of how Pender's health promotion model directly connects to the study. In addition, I will discuss an in-depth review of the current literature about mandatory drug testing in many different settings and aspects regarding mandatory drug testing.

Chapter 2: Literature Review

Introduction

Approximately 65.5% of U.S. adolescents aged 12 to 17 years have engaged in illicit drug use (National Institute on Drug Abuse, 2017). There is a surplus of studies about mandatory drug testing in schools, but there is a gap in exploring the perspective of those most affected by substance abuse, the recovering substance abusers themselves. The purpose of this mandatory drug testing in schools study was to gain the perspective of recovering substances abusers on mandatory drug testing in schools for prevention and cessation of substance abuse among adolescents.

I reviewed the public health and social science literature related to adolescent illicit substance use and mandatory drug testing in schools. Several studies have identified the importance of developing educational programs and counseling to assist adolescents to remain drug free (Collins & Small, 1995; McWhirter, 2005; Sharma & Branscum, 2013); however, much of the current literature focuses on self-reported studies from adolescents about their drug use and what they believe would be beneficial to assist them in remaining drug free (DuPont et al., 2012; DuPont et al., 2013; James-Burdumy, Goesling, Deke, & Einspruch, 2012; Morton et al, 2015; Nelson et al., 2011; Terry-McElrath, O'Malley, & Johnson, 2013). This focus provides little research about the recovering adult substance users' perceptions of what assisted them to remain drug free.

A review of the literature first identified the search criteria, theoretical framework, and the methodology used to support this qualitative inquiry. Next, the current literature was exhausted related to adolescent illicit substance use, factors that influence illicit substance use, and recovering substance abusers. Additionally, I explored

mandatory drug testing in the noneducational setting; middle, high school, and postsecondary setting; and laws, attitudes, and barriers to mandatory drug testing in schools.

Literature Search Strategy

I conducted an inquiry based on peer-reviewed journals and data from public health and educational organizations. I searched databases such as MEDLINE with Full Text, PubMed, ProQuest Nursing & Allied Health Source, EBSCOhost, and CINAHL Plus with Full Text. Keywords and phrases used in the search were *drug use, drug abuse, illicit drug use, illicit drug abuse, adolescents, adolescent drug abuse, random drug testing, school drug testing, mandatory school drug testing, drug testing attitudes, drug testing issues, drug testing laws, school drug testing laws, school drug problems, drug abuse solutions, recovering drug users, drug testing as prevention, and drug use prevention*.

The inquiry process was limited to peer-reviewed articles that revealed the most current research on the phenomenon of mandatory drug testing in schools within a 10-year period in the English language. I selected those that presented historical insight and compelling arguments on the topic for review. I organized the data presented in this review using a literature matrix. The review focused on information that addressed the phenomenon of mandatory drug testing in schools and the research questions of what age recovering substance abusers first initiated drugs and their perspective of mandatory drug testing in schools for prevention and cessation of substance use.

Theoretical Foundation

The theoretical foundation in a study guides the research while also determining what variables need to be measured and what statistical correlations and relationships should be explored (Yamauchi, Ponte, Ratliffe, & Traynor, 2017). A theoretical foundation is essential for solid groundwork in a research study. A strong theoretical foundation provides credibility and reliability to the research study when there is evidence that each of the concepts were thoroughly investigated and a theory was used to support the research (Yamauchi et al., 2017).

Health Promotion Model

The theory that can be connected to the research of mandatory drug testing in schools is Pender's health promotion model (HPM; Pender, 2011). The HPM is a middle-range theory that has been used frequently in nursing practice (Pender, 2011). The model was constructed from the expectancy-value theory and social cognitive theory (Pender et al., 2011). There are numerous conceptual components associated with the HPM that include empowerment, behavior modification, interpersonal influences, situational influences, self-efficacy, perceived competence, perceived barriers, biophysical processes, and motivation (Ho, Berggren, & Dahlborg-Lyckhage, 2010). By examining the health behaviors and situational influences among adolescents and incorporating behavior modification using the HPM, nurses can appropriately determine a plan of care and interventions for patients. By discovering the perceptions of recovered substance users on mandatory drug testing in schools, nurses can petition for interventions and policies in schools to combat the adolescent substance use epidemic.

Theory Origin

The HPM was published in 1982 and was revised in 1996 based on changing theoretical perspectives and empirical findings (Pender et al., 2011). The Health Promotion Model was developed by Nola J. Pender to be a complementary counterpart to models of health protection. It defines *health* as a positive dynamic state rather than simply the absence of disease. Health promotion is directed at increasing a patient's level of well-being. The health promotion model describes the multidimensional nature of persons as they interact within their environment to pursue health (Pender, 2011). In addition, the HPM has been used by nurse researchers, educators, and administrators for several decades to address, explain, and predict specific health behaviors. It encourages health professionals to provide positive resources to help patients achieve behavior specific changes. The goal of the HPM is not just about helping patients prevent illness through their behavior, but to look at ways in which a person can pursue better health or ideal health (Pender et al., 2011).

The model is socially relevant to individuals, families, and groups, irrespective of age or socioeconomic status. The model is also relevant across all cultures. Research using the HPM and student drug testing has been conducted in the United States (DuPont et al., 2013), in Iran (Mohamadian et al., 2011), and in the United Kingdom and Australia (Brown, 2009; Horyniak et al., 2017; Roche, Bywood, Pidd, Freeman, & Steenson, 2009). The HPM is useful and applicable for nursing practice. It was proposed by Pender as a framework for integrating nursing and behavioral science perspectives on factors that influence health behaviors. The model is used as a guide to explore

the biopsychosocial processes that motivate individuals to engage in behaviors directed toward health enhancement (Pender et al., 2011).

Theory Modification

As the model was tested through the years with nurses' perspectives, the model was modified based on theoretical perspectives and empirical findings to fit the research results and uses in nursing health promotion. It is widely used among the health promotion community and is primarily concerned with empowering citizens to take control of their health. McMurray (2003) indicated that the most significant shift in the conceptualization and emphasis for health promotion has been from teaching people how to manage their health from a preventative individual, medical, and behavioral orientation to a social methodology. This methodology capitalizes on the inherent capacity of community members to establish their own goals, strategies, and priorities for health through a socio-ecological approach to community health. Based on Pender's health promotion model, health care professionals need to understand and address modifiable behavior-specific variables. This theory can be used by describing factors that influence an adolescent's awareness, attitude, and behavior toward the health problem of illicit drug use. It can be used with the recovering substance abusers to determine what shaped their life experiences and what manipulated the environment toward their recovery. It can also guide the researcher when applying the findings for mandatory drug testing, or alternative health promotion methods, for drug abuse among adolescents in schools.

Graphic Model

A graphic model (Figure 1) was developed to show the connection between Pender's health promotion model (Pender, 2011) and mandatory drug testing in schools.

Pender's health promotion model encompasses nine aspects; however, only three of these aspects are suitable for use in mandatory drug testing in schools, which are perceived barriers, behavior modification, and situational influences (Pender, 2011).

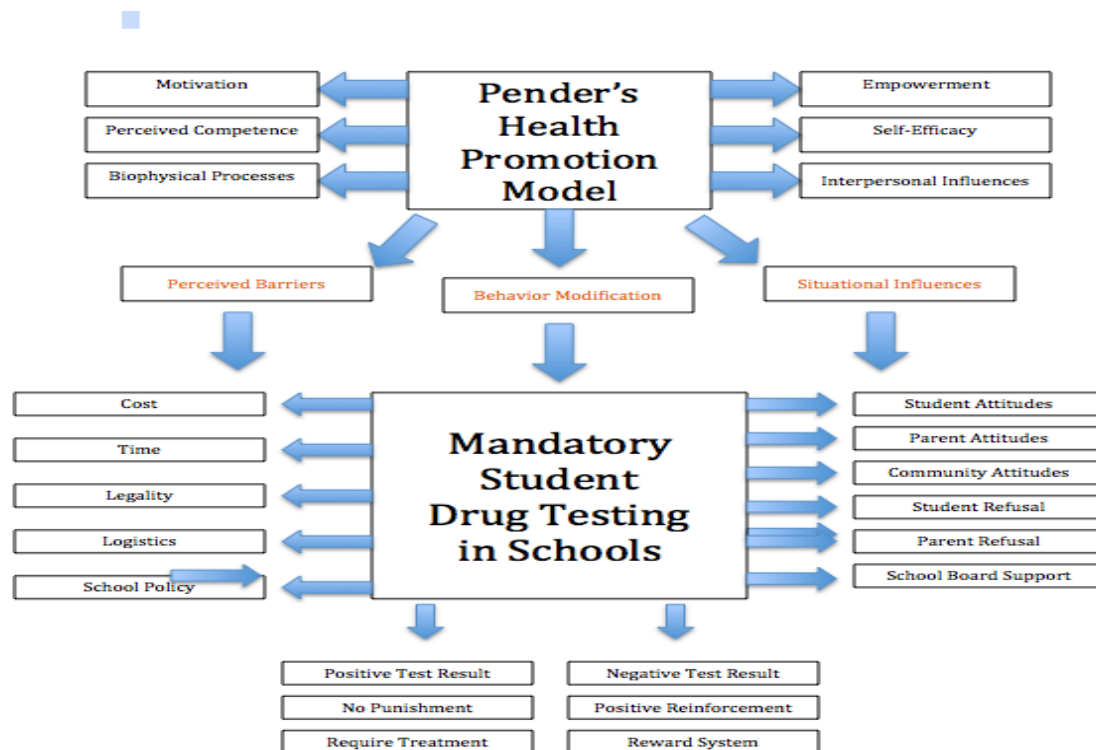


Figure 1. Graphic model of HPM and MDT. The model depicts three of the nine levels of influence on health promotion.

Mandatory Drug Testing Research

Mandatory drug testing is not a new concept; nonetheless, mandatory drug testing in secondary and high schools has been a controversial topic (DuPont et al., 2013). Mandatory drug testing involves students, teachers, prospective and current employees, criminals, substance rehabilitation clients, and suspected citizens to adhere to urine, blood, or hair sampling for illegal substances. The testing is usually conducted through a medical facility that is contracted, but not directly connected to the prescriber. The testing

is requested or required by an educational or health facility, employer, court system, probation, or law enforcement (DuPont et al., 2013). Many citizens believe that mandatory drug testing, in any circumstance, is a breach of their personal rights (Nelson et al., 2011). In some schools, the courts have ruled mandatory drug testing of students to be unconstitutional according to the Fourth Amendment that every person has the right to be free from an unreasonable search and seizure (Velasquez, 2010). However, the United States Supreme Court ruled that random school drug testing is constitutional for certain groups of students (Velasquez, 2010). These students include those who are involved in any school sponsored competitive sport or activity. In addition to certain schools, mandatory drug testing has been used by other disciplines such as employers and the military for decades (Banja, 2014; Frone, 2013; Pham, Pronovost, & Skipper, 2013; Trafimow, 2014).

Mandatory Drug Testing in Noneducational Settings

In 1971, drug testing was first used by the United States military to reduce the heroin epidemic of the Vietnam War (DuPont et al., 2012). Use of random drug tests in the early 1980s resulted in a 90% drop in self-reported drug use among active duty United States military personnel (Bray et al., 2010). DuPont and Graves (2005) found the rate of positive tests among service members had fallen from 30% to less than 2% after drug testing of military personnel was initiated. Effective use of random drug tests was also found to deter nonmedical drug use in physician health programs and in the criminal justice system. These programs have demonstrated the central role of the testing by achieving outstanding results (DuPont, Campbell, & Mazza, 2002; DuPont et al., 2012).

The workforce has used mandatory drug testing to promote the health and safety of the employees for decades (Frone, 2013). In the late 1980s, drug and alcohol testing was instituted in many segments of the United States civilian work place (DuPont et al., 2012). Many employers require routine drug testing. Random testing is used widely, particularly in high-risk employment settings, whereas pre-employment drug testing is used routinely to screen potential employees even in low risk fields (DuPont et al., 2012). Most employees and job applicants will be asked to take a drug test at least once in their careers. From the employers' perspective, illicit drug use by employees results in greater absenteeism, decreased productivity, and other negative factors (Frone, 2013). Also, many employers enact pre-employment (and sometimes post-hiring) drug testing procedures to protect against liability for the actions of their workers (Frone, 2013).

Researchers in Portugal (Marques, Vasco, Olea, Vairinhos, & Jacinto, 2014) conducted a 5-year study that randomly tested drugs and alcohol with employees in a large railway company. The results of using drug and alcohol testing in the workplace positively affected safety and the individual's accident risk. Pham et al. (2013) found a large effect based on primary anecdotal evidence that drugs and alcohol effect performance in the workplace. On the other hand, there is conflicting evidence in other research studies. Banja (2014) found that drug and alcohol abuse only has a small effect on actual performance of health care workers and concluded that it makes little sense to devote resources to drug and alcohol testing in the health care workplace.

Passage of the Drug-Free Workplace Act of 1988 prompted mandatory drug testing guidelines set forth by the Substance Abuse and Mental Health Services Administration for many federal employees that include executive agencies, the

uniformed services, the United States Department of Transportation (DuPont et al., 2012), and most federal contractors (Frone, 2013). Such agencies conducting drug tests are required to follow certain procedures. These guidelines mandate testing for amphetamines, cannabinoids (marijuana), cocaine, opiates (heroin, morphine), and phencyclidine (PCP) and require an evaluation by a Medical Review Officer (Pham et al., 2013).

Adult and juvenile probation services require clients on probation to complete routine drug testing when court ordered (Taylor, Sullivan, Ring, Macleod, & Hickman, 2017). The philosophy behind the use of drug testing in this setting is to help clients “stay clean” of substance abuse that might cause them to make poor social decisions. In the same manner, substance abuse rehabilitation programs also require clients to complete routine drug testing (Linares, Daly, Stefanovski, & Boston, 2013). Drug testing in the drug rehabilitation realm is used to verify that the client is complying with the treatment plan.

Whether at the collegiate level or in the Olympics, many athletes are required to undergo drug testing to promote the wellness of athletes and prevent unfair advantages (Bahrke, 2015; Goldberg, Elliot, & MacKinnon, 2007). Some athletic organizations that have mandatory drug testing include the National Football League, the National Basketball Association, the National Collegiate Athletic Association, and the International Olympic Committee (Bahrke, 2015).

Another type of random drug testing is found in Australia. Capital cities around the country conduct random roadside drug testing with the dual aims of prosecuting drivers with drugs in their system and deterring drug driving. Horyniak et al. (2017)

completed a 6-year study using data from 5,053 drug driving participants. They found a significant decrease in drug driving incidences with the random roadside drug testing, reflecting a general deterrent effect.

Mandatory Drug Testing in Postsecondary Education

Postsecondary education has required annual drug testing in certain educational majors including medical school, dental school, pharmacy school, nursing school, and student athletes (Cates & Hogue, 2012). For certain nonhealth programs that necessitate students to complete off site experiences, the student must abide by the off-site facilities drug testing requirements (Cotter & Glasgow, 2012). Some of these programs include student teaching experiences, construction, technical, and engineering programs (Cotter & Glasgow, 2012). In one study, Kornegay, Bugle, Jackson, and Rives (2004) found 50% of faculty surveyed had been in a situation when they encountered a student who had exhibited the characteristics of a chemical dependency. Kenna and Wood (2004) researched nursing programs and found that drug use among nursing students ranged from 5.9% for cocaine use and 39.2% for opiates.

In an Alabama school of pharmacy, a mandatory drug-testing program was implemented for the pharmacy students (Cates & Hogue, 2012). The program tested more than 1,000 students and found only five positive tests in the 3-year period. The authors concluded that mandatory drug testing in that particular program had a multitude of benefits that included conveying to the students the seriousness with which the profession takes substance use and abuse among the members, prepared students for the reality of random drug testing as part of the employment process and has the potential to detect students with a substance abuse issue and provide an opportunity for early detection and

treatment. They also found drug testing programs discourage the recreational use of substances from peer pressure and for studying purposes (Cates & Hogue, 2012).

In West Virginia, a state devastated by the opioid epidemic, a new state law in 2018 has allowed and funded “free college” for community colleges (Quinn, 2018). The program, called WV Invests, provides tuition-free education if students will participate in a mandatory routine drug testing program each semester and pay for it themselves. The philosophy of this program is to promote further education in addition to fostering healthy lifestyles for its future workforce (Quinn, 2018).

Although many health-related college programs choose to require drug testing, not all do. The University of Iowa does not require routine drug testing for its school of pharmacy students (University of Iowa, 2018). The administrators at the Iowa College of Pharmacy believe strongly that adherence to current policies and procedures should result in drug free environments and that random mandatory drug testing of members of the student body is an unnecessary invasion of student privacy (University of Iowa, 2018). When Linn State Technical College (currently the State Technical College of Missouri) attempted to drug test all students under the concern for safety and for preparing its students for the “real world”, it was found to be unconstitutional (Linn State Technical College, 2011). The courts ruled that only certain students, in heavy equipment and aviation maintenance programs, could be tested.

Mandatory Drug Testing in Middle and High School

In middle and high school settings, routine drug testing for all students is seldom used (Adelson et al., 2017). In the schools that do implement drug testing, it has been used only for athletes and students in competitive extracurricular activities (Bahrke,

2015). The National Institute on Drug Abuse (2017) found that 56.1 percent of United States middle and high schools conduct random drug testing on specific student groups, such as athletes. Individual state constitutions may dictate different legal thresholds for allowing student drug testing.

Regarding urine drug testing, only two studies were found about testing all students at school for substance use with an implemented drug-testing program (Adelson et al., 2017; Nelson et al., 2011). Adelson et al (2017) researched a private high school in the United States that implemented a non-scheduled urine drug-testing program for all students and employees. The study was conducted on this school from 2008 to 2014 and found that of the 137 students and staff who were tested, only four students showed positive results over the six-year period (Adelson et al., 2017). The program results indicated minimal substance use among students who are routinely drug tested in school.

In the second study, the authors (Nelson et al., 2011) conducted a three-year case study from 2005-2008 in a southwestern United States High school who implemented a comprehensive student drug testing program with students who participated in competitive school sponsored extracurricular activities. They used both qualitative and quantitative methods. The data collected included drug testing results; focus groups; student self-reports; and teacher, parent, and community member surveys. The drug test results revealed a decrease in drug use in the general population, except ninth grade. Regarding the at-risk population of troubled youth, there was a decrease in drug use for grades 10 and 11, but an increase in drug use for grades 9 and 12. Positive drug test results decreased for the female participants while they increased for male participants over the three-year period. The researchers concluded that random student drug testing

may have the ability to deter drug use and enable staff to intervene with students who have a positive test.

Barrington (2008) researched school districts that have implemented a voluntary student drug-testing program. These students enroll in the program to volunteer to be drug tested. School districts use this type of voluntary program to provide the students with an excuse to not conform when confronted with peer pressure to engage in illicit substance use (Barrington, 2008). The quantitative findings of this quasi-experimental study revealed that a voluntary random student drug-testing program had no significant impact on the students' self-reported rates of illegal drug use. The results may not be a good representation of drug use in the general population of students because students who volunteer to participate in drug testing probably are not using drugs.

One of the United States best-known random school drug testing programs conducted urine drug testing over a two-year period and reported a decline in 20 of 28 drug use categories between 1997 and 1999 (Brady, 2011) when the drug-testing program was initiated and researched. During a 2-year lapse in testing from 2000-2002 due to litigation, the school reported rapid increases in problems associated with substance use at school-sponsored activities. The researcher reported a decrease in drug use by student surveys when the program was reinstated in 2002 (Brady, 2011).

The largest experimental evaluation to date of school-based mandatory student drug testing included 36 high schools and more than 4,700 ninth through twelfth grade students (James-Burdumy et al., 2012). After baseline data collection, half of the schools implemented drug testing. The results were based on student responses to a questionnaire and found that students in the drug-testing group reported less substance use than the

students in schools without drug testing (James-Burdumy et al., 2012). This study concluded that mandatory random student drug testing showed results in reducing illicit substance use among high school students.

DuPont et al. (2013) conducted a study among eight high schools by analyzing 27,604 self-reported surveys of student drug use. An average of 65 percent of the students surveyed were in a drug-testing program due to participating in extracurricular activities. The remainder of the students did not participate in any type of drug testing program. The students subject to testing reported significantly less marijuana and other illegal drug use than the students in the same school who were not subject to testing. The students who were drug tested also had more positive attitudes to the testing than those not subject to the testing. This study provides evidence that awareness of eligibility for drug testing in schools with random student drug testing programs is associated with lower rates of drug use.

Another 14-year study of middle and high school students participating in athletics and extracurricular activities with mandatory drug testing programs found that there was moderately lower marijuana use, but an increased use of illicit drugs other than marijuana (Terry-McElrath et al., 2013). They concluded that student drug testing is generally associated with increased use of illicit drugs other than marijuana. The researchers did not use empirical results from actual drug testing, as the data collection and analysis were from the use of student questionnaires and their self-reporting of substance use activities. Further research is needed to clarify the apparent opposing associations with student drug testing and drug use.

Most of the research studies and results for mandatory drug testing in schools are through data obtained from student self-reported questionnaires (Barrington, 2008; DuPont et al., 2002; DuPont et al., 2012; DuPont et al., 2013; Evans, Reader, Liss, Wiens, & Roy, 2006; James-Burdumy et al., 2012; McWhirter, 2005; Nelson et al., 2011; Sharma & Branscum, 2013; Sznitman & Romer, 2014; Terry-McElrath et al., 2013; Vasters & Pillon, 2011). It is very difficult legally and ethically, if not impossible, to conduct and evaluate the effects of mandatory drug testing in schools by using urine, blood, or hair testing data (Ingraham, 2015; Levy & Schizer, 2015; Shek, 2010; Velasquez, 2010). Therefore, researchers are left to study the effects of drug testing programs through student surveys. A limitation to this type of data collection is the degree of honesty that students provided in the self-reporting assessment. Students who are using illicit substances may be inclined to not tell the truth in fear of getting caught, even though the survey is anonymous.

A Shek (2010) study on drug testing in schools to tackle the adolescent substance abuse problem discovered that there are few research studies in this area, the quality of existing studies is low, and the research findings supporting the effectiveness of school drug testing is mixed. Velasquez (2010) also found that little empirical research examining the effectiveness of random student drug testing to reduce student drug use has been completed.

Laws on Random Drug Testing in Middle and High School

During the early 1990's many United States school districts began considering drug testing as a means of deterring student drug misuse. Very quickly, the legality of these programs regarding student privacy was challenged and two cases progressed to the

United States Supreme Court (Bahrke, 2015). The challenge contended that mandatory drug testing of students was unconstitutional, according to the Fourth Amendment that every person has the right to be free from an unreasonable search and seizure (Velasquez, 2010). However, the United States Supreme Court ruled that random school drug testing is constitutional for certain groups of students (Velasquez, 2010). In 1995, the Supreme Court upheld the constitutionality of drug testing for student athletes only. In 2002, the Supreme Court expanded high school drug testing policies to include all students who participate in school competitive extracurricular activities. In these rulings the Supreme Court stated that deterring student drug misuse was more important than privacy.

Unlike public schools, private schools have more freedom, and can randomly drug test all students, not just students in sports or competitive activities, since the students have a choice to attend the private school. If a student does not want to be routinely drug tested, they have the option to attend a public school.

Attitudes of Random Drug Testing in Schools

Attitudes regarding mandatory drug testing in schools are varied among students, physicians, school governing bodies, parents and community members, and experts in the field; however, the research is limited and contradictory. Studies were found both from the United States and internationally. Evans et al. (2006) researched students in a North Florida school with a mandatory drug-testing program in place and found student attitudes toward the program to be unequally divided. A significant majority of students reported they thought the program was effective; yet, other students thought the program was unfair and questioned the accuracy of the testing. Sznitman and Romer (2014) found, in a study of secondary school students, the students reported that random drug testing in

school would not reduce their substance misuse. Russell, Jennings, and Classey (2005) found in a rural northwest school that students who use drugs were less likely to support student drug testing.

Bahrke (2015) argued that randomly testing student athletes for performance drugs should be eliminated. He based his findings on the high cost of the testing and the results that only 1.3 percent of United States high school seniors had a positive test. His research was based on performance enhancing drugs in sports, such as the use of steroids, as opposed to common illicit street drugs used by adolescents in the general school population.

Nelson et al. (2011) researched parent, school staff, and community attitudes and perceptions about drug testing in the local school. A southwestern school district with a drug-testing program in place was evaluated over a three-year period. Parents and community members reported that they were informed about the program, understood the consequences of the drug testing program, believed the program was fair and adequate, that testing was a deterrent to drug use, and the random drug testing program should continue in the district. Teachers in the same district reported students had adequate information about the program, students were treated respectfully during the process, student information was confidential, drug testing was a deterrent to drug use, and the program should continue (Nelson et al., 2011).

The American Academy of Pediatrics does not support drug testing of students in schools and believe that drug counseling should be used in place of drug testing in schools (DuPont et al., 2012; Levy & Schizer, 2015). The physicians recommend that adolescents not be drug tested without their knowledge and individual consent and that

parents should consult a health-care professional if they have concerns about their child's drug or alcohol use (DuPont et al., 2012; Levy & Schizer, 2015). However, many parents are unaware of their child's drug and alcohol use.

Two studies were conducted among adolescent students in Brazil. Filho, Queiros, Medeiros, Rosso, & Souza (2015) conducted focus groups with 16 students from two different schools. They found that the students believed that security and more activities in school and the right to work at a young age would prevent most adolescents from initiating drugs. The students did not discuss mandatory drug testing in school as an option. Vasters and Pillon (2011) discovered another group of Brazilian students believed a new drug-free peer relationship network and family and religious support was the best method to remain drug free. These students did not mention or discuss the possibility of mandatory drug testing in schools.

In the United Kingdom, Brown (2009) discovered that the school government is against routine drug testing in schools; however, the head teacher can drug test students with the suspicion of drug use by including the local police in the situation. McWhirter (2005) argued that the United Kingdom should not conduct drug testing in schools based on evidence from research in the United States that drug testing in schools does not deter young people from using drugs. However, many of these studies that were conducted in the United States are based on student attitudes and self-reported drug use or non-use, instead of empirical evidence of conducting drug testing.

In Australia, a community study (Fitzgerald & Sowards, 2002) determined that 24 percent of respondents supported school drug testing. The remaining participants who were opposed to drug testing in schools believed there were no advantages to it, that it

would lead to mistrust between students and school personnel, and it would stigmatize students with drug problems. Based on the contradictory results from students, community members, and other countries, a study surveying recovering substance abusers is believed to be beneficial to uncover what they think about implementing mandatory drug testing in schools.

Barriers to Random Drug Testing

The cost of testing has been a criticism and barrier to drug testing programs in schools (DuPont et al., 2012). Some school districts budget about \$30 per test to cover the cost of collection, initial testing, and confirmation of screened positives (Brady, 2011). Other schools suggest that school personnel administer the specimen collection for a reported cost of under \$19 per student per year (Brady, 2011). The annual program cost for random school drug testing programs in nine school districts in the United States ranged from \$1,500 to \$36,500, with the median cost of \$5,800 (DuPont et al., 2002). The most recent study (Ingraham, 2015) reported an average cost of \$24 per student for an annual cost of \$20,000. In many cases, schools have partnered with local laboratories to conduct testing at a significantly reduced fee as a community service effort (DuPont et al, 2012). Additionally, school districts may apply for local, state, and private grants to cover, or partially cover, the cost of drug testing programs (Velasquez, 2010).

Inaccuracy of the drug testing results is another barrier to school drug testing programs. Urine screening tests vary in sensitivity from being common for false-negative tests to occur and uncommon for false positives (DuPont et al., 2012). Some of the medications that report a false positive on a urine drug screen include certain antihistamines, antidepressants, antipsychotics, ibuprofen, naproxen, dextromethorphan,

ranitidine, and verapamil. When a sample is positive for drugs it is sent to a laboratory for confirmation by a Medical Review Officer (National Institute on Drug Abuse, 2017). The best school response to a confirmed positive test should be non-punitive and provide the student with substance abuse counseling and treatment (DuPont et al., 2012).

Summary

There is a plethora of research about mandatory drug testing in schools. Much has been covered on the phenomenon of drug testing students in school; yet, there is a gap in the literature about exploring the perspectives of recovering substance abusers on the topic. Pender's HPM guided the study in uncovering if mandatory drug testing in schools was an appropriate health promotion method. Chapter three will further discuss specifics of the research project including the method, design and rationale, role of the researcher, trustworthiness, and ethical procedures.

Chapter 3: Research Method

Introduction

The purpose of this mandatory drug testing in schools study was to explore the usefulness of mandatory drug testing in public schools as an illicit substance abuse prevention measure for adolescents from the perspective of prior substance abusers. To understand this phenomenon, I conducted a qualitative study to uncover the perspectives of recovering substance users about their experience with substance abuse recovery, drug testing, and their thoughts on drug testing in schools as substance abuse prevention and behavior modification. In this chapter I will discuss the research design and rationale, role of the researcher, methodology, participant selection and recruitment, instrumentation, data collection and analysis, trustworthiness, and ethical issues.

Research Design and Rationale

Research Questions

1. At what age did recovering substance abusers first initiate substance use?
2. What are the perceptions of recovering illicit substance abusers about mandatory drug testing in schools as a deterrent for adolescents initiating substance use and would it have prevented their substance abuse?
3. What is the most effective method for substance abuse prevention and recovery for adolescents?

The central concept to this study was that adolescents continue to abuse substances in spite of exhausted substance abuse education. Another concept is that recovering substance abusers have not been studied to what they believe about the effectiveness of mandatory drug testing in schools. Recovering substance abuse

individuals provided answers about the most effective method in their recovery and if mandatory drug testing in school was a valuable option to adolescent drug abuse prevention and cessation.

The design of this study was a qualitative approach. It involved individual face-to-face interviews with recovered drug users who had openly communicated their prior drug use to this researcher. Keeping the focus on how recovering substance abusers make sense of the drug abuse prevention and recovery effort is consistent with Pender's health promotion model (Pender et al., 2011) by modifying cognitions, affect, interpersonal influences, and situational influences to create incentives for health promoting behavior.

I chose a qualitative approach, using individual face-to-face interviews, to uncover the perspective of recovering substance users about their experience with substance abuse recovery, drug testing, and their thoughts on drug testing in schools as substance abuse prevention and behavior modification. Because of the sensitive subject matter, individual interviews were the preferred method, instead of focus groups. Personal interviews allowed me to ask probing questions to gain a deeper understanding to the feelings of recovering substance abusers on drug testing in schools and what was most effective to their recovery.

Role of the Researcher

In this research effort, the roles are that of a doctoral student, school nurse educator, interviewer, novice researcher, and social change agent. As a doctoral student, I have acquired knowledge in all aspects of research to develop a quality research project for my dissertation. My doctoral student role has also given me the desire to discover problems and issues in my personal nursing practice and to conduct research for future

positive social change. As a school nurse educator, my role has provided me personal experiences with student illness, injury, crime, and death as a result of substance abuse. As a result, my role was a researcher and active participant in a qualitative mandatory drug testing in schools' study to find answers to deter adolescents from substance abuse. I was directly involved with the interview process by asking questions to participants and documenting their answers.

There was not any personal or professional relationship with the participants. Participants were not family, friends, or coworkers with the researcher. The participants were unfamiliar to the researcher. The first conversation with the potential participant was via a phone call or email, initiated by the participant, to discuss the study and determine if they met the criteria for the study. As the researcher, I had a supervisory role over the participants only in planning, organizing, and conducting the interviews and research. I encouraged the participants to expand upon their answers and give details while the researcher was an active listener. By displaying good listening and interviewing skills, I overcame any power relationship that might be felt from the participants.

Another role of the researcher was to be aware of ethical issues and biases and to have a plan to address the issues. The main ethical issue was to refrain from including adolescents or any current substance abusers in treatment in any aspect of the research project because they are a vulnerable population (Fouka & Mantzorou, 2011). The study was conducted with recovered adults at a neutral location, outside of my own work environment and outside of the participants' gathering or meeting places. I controlled biases by being aware of potential bias, using direct quotes from the participants, and committee review of the data.

Methodology

The approach and methodology were essential to understand from prior drug users, themselves, what exactly stopped them from using drugs to combat their drug abuse social problems. It is important to get the perspective from the stakeholders (Wilson & Clissett, 2011) to gather rich data of simply effective drug prevention and recovery methods. The purpose was to understand, from past substance users, what prevention method from their perspective is most effective to keep adolescents from using drugs and what would have prevented them as a teen to not initiate drugs. For rich and quality data, personal interviews were the method of choice for my research.

Participant Selection

The population were participants who were recovering drug abusers who had been drug free for 3 years or greater and who had openly communicated their prior substance abuse. This purposive participant recruitment method was chosen to avoid any ethical issues of individuals in current drug treatment and any confidentiality concerns of participants who do not want their prior substance abuse history to be known. Individuals who had openly discussed their prior substance abuse through local public speaking events or attended Narcotics Anonymous or Drug Task Force meetings were recruited for the study.

I recruited by word of mouth and by displaying posters about the study, inclusion criteria, and with my contact number at local Narcotics Anonymous and at Drug Task Force meeting locations. This recruitment method was chosen to anonymously recruit participants who have been recovered. The participants contacted me for details about the study, to determine if they meet the criteria, and for verbal consent. If they met the

inclusion criteria, I set a time and location for the interview during the initial phone contact. Fewer than 10 participants initially responded, so a snowball sampling method was also used by asking the consenting participants to pass along information about the study to other individuals who meet the study criteria.

I conducted individual interviews with the participants. Recovering drug users are considered a hidden or hard to access group. Because these individuals are difficult to identify and access, the snowballing technique was used to recruit additional participants. Data saturation is typically achieved with between 15 and 20 interviews; however, it may be reached with fewer interviews (Baker, Edwards, & Doidge, 2012; Guest, Bunce, & Johnson, 2006). I planned to conduct between 10 and 20 interviews until saturation was achieved. Theoretical saturation was achieved when no new information was gleaned from the last interview conducted. Saturation was achieved with 15 interviews; however, two additional interviews were already prescheduled, so they were carried out.

The inclusion criteria included adults between the age of 24 and 65 years, willing to discuss their past drug abuse, English speaking, ambulatory, with access to transportation, and willing to voluntarily participate in the study. Exclusion criteria included the mentally handicapped or deaf and unable to speak.

The interview locations were a private room at the local public library and at a local church as requested by the participant. I was directly involved with the participants, self-engrossed in the study, and took a step back to be unbiased with the results. In this study, I used self-awareness by managing personal bias that mandatory drug testing is effective for substance use. I managed biases by being aware and stepping away from

personal biases, using direct quotes from participants, documenting everything, and continually reflecting on the study with documented thoughts and feelings.

As a researcher, it was essential to develop a rapport with each participant, gain their trust, ensure their confidentiality, and keep the participants up to date on the developments of the project. I developed a rapport and trust with each participant by displaying kindness, compassion, and honesty during each telephone conversation and during the private interview. I assured participants of confidentiality through conducting the interview in a private location and using a number system in place of names throughout the study.

Instrumentation

For this qualitative research study, I was the instrument for the study. I used several tools for the study. The first was an audiotape. The audiotape allowed me to record the interview, while listening and maintaining eye contact with the participant, and translate the exact words at a later time. The second tool was an interview guide (Appendix A) that I specifically developed and tailored to answer the research questions for my study for the study based on the Interview Guide Example developed by Walden University (n.d.). The interview guide has been used repeatedly over time by qualitative researchers to organize and plan the interview and questions to stay on task. Additionally, I used Google Docs voice-activated transcription device to transcribe the audiotape into a verbatim transcript. I also used the Excel Coding Document Template developed by Walden University (n.d.). In addition, I used NVivo Qualitative Data Analysis software (QSR International, 2018) to code the data from the transcript. I entered exact words and phrases from the participants into an Excel document for the coding process to ensure

trustworthiness and content validity of the data. Other tools included hand-written notes, reflections, and journaling of the researcher. I used all of these tools throughout the study and in the analysis process to support the credibility and authenticity of the study. The researcher and these tools established the sufficiency of the data collection to adequately answer the research questions.

Recruitment

Details about the study and the recruitment of participants were from word of mouth by the researcher, family, friends, and the use of posters. Recovering substance users who publicly spoke about their prior substance use at community events and around the state were also approached by the researcher about participating in the study. I printed posters with details about the study and the researchers contact number and displayed by the researcher in the building hallways, elevators, and classroom meeting locations of Narcotics Anonymous and at several county Drug Task Force locations in central Pennsylvania.

Participation

All participants who met the study inclusion criteria and contacted me were invited to participate in the study. I informed the participants of confidentiality and their right to drop out of the study at any time. I also provided an informed consent form and instructed them to complete it. I notified participants of the potential of psychological and emotional discomfort of the subject matter and provided them with free, local mental health counseling contact information.

Data Collection

I collected data by audiotaping the interview with each participant and note taking after each interview was concluded. No participant names or identifying factors were used in the data collection; each interview was organized by a number only. I, as the sole researcher in this project, collected all of the data. One interview was conducted with each of the participants over a three-month time frame in order to meet time constraints of the researcher. I used the Google Docs transcription of each audio recording and coded it onto an Excel spreadsheet using the NVivo Qualitative Data Analysis. Participants were told following each interview how the data was going to be recorded and analyzed. Each participant was also asked if they wished to provide their contact information for debriefing and results following completion of the study.

Data Analysis Plan

For data analysis I used Google Docs software to create a verbatim transcription of the interview. Google Docs has a free voice-typing tool that hears the audio and transcribes it verbatim. Next, direct quotes and phrases from the verbatim manuscript were coded into categories and themes by using NVivo Qualitative Data Analysis onto an Excel spreadsheet. Hand coding was also be used. In addition, I executed note taking, journaling, reflecting, and use my Chair and committee as peer debriefers for triangulation and to control bias. The words and phrases from the participants used as data in the study answered the question if mandatory drug testing in schools is thought to be an effective method for prevention and cessation of adolescent substance abuse. Discrepant cases were treated as valuable information and used as data in the study.

Discrepant cases were not dismissed from the study and answered the research question to the most effective method for adolescent substance abuse prevention and cessation.

Trustworthiness

I displayed trustworthiness and rigor in the project by demonstrating integrity and competence through a precise design and approach. I conducted the research, data collection process, and analysis using the high standard of direct quotes from the participants in the coding process to demonstrate non-bias. Other ways I ensured trustworthiness was triangulation, reflexivity, an audit trail, member checking, and peer debriefing.

I demonstrated quality and rigor was in the qualitative project by using five criteria of credibility, dependability, confirmability, transferability, and authenticity (Guba & Lincoln, 1994). Credibility was demonstrated in this study by showing the link between the findings and reality. It was established through triangulation and member checking from my committee. In the study, dependability was achieved by reporting the processes at length so that future researchers can repeat the work. Confirmability was achieved by demonstrating the confidence of the study that the findings were based on the participants' words and narratives and not my biases. It was achieved by an audit trail and reflexivity. Transferability was established through thick descriptions of the participants' words and details of the study. It was also established by the variation in participant selection across different ethnic and geographical backgrounds. An important issue for qualitative research was that of authenticity. In establishing authenticity, I provided reassurance that both the conduct and evaluation of research were genuine and

credible not only in terms of participants' responses, but also by full disclosure of all data found, including negative cases.

Ethical Procedures

To be sure that all ethical considerations were addressed, I abided by all of the recommendations of my Chair and committee, ethics committee, University Research Reviewer (URR) and Institutional Review Board (IRB). The Walden University URR and IRB procedures for ethical considerations in a study were followed, along with approval from both the URR and IRB prior to conducting the study. I received approval from the building manager of the Drug Task Force and Narcotics Anonymous locations prior to hanging any posters about the study in the building. I was granted approval from the Altoona Public Library prior to any interviews being conducted at the site. I received approval of the Prospectus of this mandatory drug testing in schools study through Walden University.

Ethical considerations remained forefront in this sensitive topic study. It is understood that the population of illicit substance abusers in treatment are a vulnerable population. Therefore, only participants with a past history of drug use, who have been substance free for three years or greater were selected. I assured participants that their confidentiality will be maintained, that they were referred to by a number, and that their name will not be discussed or used in the data collection or throughout the study. I discussed informed consent with each participant and they were required to sign an informed consent form. I instructed participants that they will never be coerced to participate in the study, that they can drop out at any time, and that they will be kept informed of the progress of the study. For participants who choose to drop out after the

study has begun, all of their information will be destroyed and not included in the study. All of the participants chose to remain in the study.

I followed ethical procedures in participant recruitment by finding potential participants through word of mouth and by using posters (Appendix B) that advertised the study. I instructed participants to contact me via phone or email from the information printed on the poster. Participants who contacted me, met the study criteria, and were willing to participate were set up for a personal interview at the initial contact. I mailed, emailed, or texted an informed consent form (Appendix C) to willing participants to complete prior to the interview. I instructed participants that they can withdraw from the study at any time. I also informed participants on the use of audio-taping and provided the interview questions and details about the study, prior to the interview, in an attempt to decrease anxiety and so they could prepare their answers ahead of time.

I stored confidential data, including the consent forms with the participants' signature and their personal contact information in a locked file at my home. I was the only person with access to the data. I did not disseminate data to anyone. All data for this mandatory drug testing in schools' study will be destroyed following the dissertation final approval by shredding of any paper forms or notes and destroying all audio and computer files.

Summary

This qualitative study on the perspective a recovering substance users about mandatory drug testing in schools was necessary based on the documented gap from the literature review that recovered substance abusers have not been researched about their perspective on mandatory drug testing in schools. The researcher incorporated

trustworthiness, quality, and rigor by utilizing Pender's health promotion model as a theoretical framework and by demonstrating credibility, dependability, confirmability, transferability, and authenticity throughout the study.

This study has the potential to positively effect social change with the illicit substance abuse epidemic both nationally and globally. If mandatory drug testing is supported with the data as an effective means for deterring individuals from using illicit substances, then it may be warranted as a practice in middle and high schools, in the workplace, and with recovering illicit substance abusers to deter them from using illicit substances. If adolescents may be deterred from using illicit substances, then, potentially, the illicit substance abuse epidemic could be improved. In Chapter four, the results of the study will be conveyed including the setting, demographics, data collection, data analysis, and specific results from the transcripts.

Chapter 4: Results

Introduction

The purpose of this exploratory qualitative study was to examine the perceptions of recovering substance abusers on the usefulness of mandatory drug testing in public schools as an illicit substance abuse prevention measure for adolescents. Illegal substance abuse has reached an epidemic proportion as approximately 65.5% of American adolescents aged 12 to 17 years old have engaged in illicit drug use (National Institute on Drug Abuse, 2017). I sought recovering substance users for valuable answers as to what would be the most successful methods for drug prevention and recovery according to their experience. I collected the qualitative data using 17 face-to-face interviews with recovering substance abusers during the months from December 2019 through February 2020. The purpose of the interviews was to gather in-depth data from the participants on various aspects of illicit substance use such as age of initiation, thoughts on mandatory drug testing in schools, and the most effective methods of recovery. I focused on addressing the three research questions:

Research Question 1: At what age did recovering substance abusers first initiate substance use?

Research Question 2: What are the perceptions of recovering illicit substance abusers about mandatory drug testing in schools as a deterrent for adolescents initiating substance use and would it have prevented their substance abuse?

Research Question 3: What is the most effective method for substance abuse prevention and recovery for adolescents?

In this chapter, I will outline a synopsis of key themes from the results of the interviews. I will also present information on the research setting, demographics, data collection, data analysis, evidence of trustworthiness, results, and summary.

Study Setting

I conducted the study in one large city in central Pennsylvania, where face-to-face interviews were feasible on a flex schedule and in a private setting near my home location. I distributed flyers to recovering substance abusers during the recruiting process at seven different Narcotics Anonymous (NA) meeting locations in and around the city. The participants responded to the flyers by contacting me via cell phone or email as listed on the flyer. The interviews took place during a mutually agreed upon time and in a private room at the NA location and the local public library, according to the participants wishes.

Demographics

The study consisted of 17 recovering substance abusers in central Pennsylvania. A total of 14 men and 3 women participated in the study (see Table 1), who ranged in age from 24 to 58 years with a mean age of 36 years. The length of time of using illicit substances varied among all of the participants. A majority of the participant's reported using substances for 3 years or more (16/17; see Table 1). Only one participant stated they used for less than 1 year. The longest amount of time using substances was 20 years (see Table 1). The last demographic question I asked was how many years they have been in recovery from using illicit substances; the range was from 3 years to 34 years of being free from using illegal substances (Table 1).

Table 1

Demographics Table

Participants	Gender	Age	Years using	Years since recovering
1	M	28	3	10
2	M	25	3	6
3	M	31	5	10
4	F	52	6	29
5	M	50	<1	34
6	F	30	3	8
7	M	27	10	3
8	F	36	4	6
9	M	41	11	3
10	M	29	8	5
11	M	58	20	22
12	M	31	13	3
13	M	24	3	8
14	M	58	14	28
15	M	38	6	17
16	M	30	10	3
17	M	27	6	3

I used a purposive sampling to select participants and as a strategy to meet study criteria. Demographic questions were limited to age, gender, number of years using illicit substances, and number of years recovering from substance abuse. I chose the study criteria for number of years recovering from substance abuse for 3 years or more to avoid any ethical issues of individuals in current drug treatment and to limit the possibility of the subject matter causing them to regress in their continuing recovery. Potential participants received the demographic criteria on the flyer during the recruitment phase. I informed them of the demographic criteria, again, during the informed consent. I asked the participants about meeting the study criteria during the initial telephone call to

participate in the study. I assigned each participant a number, 1 to 17, and did not use any names throughout the study to protect participant identity and confidentiality.

Data Collection

Prior to passing out flyers to recruit participants at the NA locations, the NA national headquarters was contacted via email for permission to access the meeting locations. I recruited participants at seven NA locations in and around the study location. Upon entering each meeting location, I introduced myself to the group leaders, informed them that I had permission from NA headquarters to be present, and gave a brief description of the study. I asked the leaders if they wished to distribute the flyers. At all seven locations, the leaders requested that I distribute the flyers. At six locations, the leaders asked me to introduce myself to the group prior to passing out the flyers. At the other location, the flyers were distributed as participants were sitting down to begin the meeting. At the first location, I distributed 25 flyers and after 1 month no one responded to participate in the study. Upon returning after a month to a second meeting location, I was told by one of the leaders that the meeting members thought I was an undercover police informant. The leader suggested that at all further meetings I briefly discuss who I was and a description of the study. A personal introduction was not given at the first location to avoid any potential coercion to participate in the study. During the second month of data collection five more meeting locations were attended, 100 flyers were distributed, and 10 participants responded to the study. I utilized a snowball recruiting method with these 10 participants, and during the third month of data collection, seven more participants responded to the study.

I projected data collection to take place during a 1-month time frame. However, due to the lack of initial response, the data collection process took place in the course of 3

months. Data collection began as each participant responded to the study. All 17 participants responded to a TracPhone cell phone number that I purchased for study purposes only. During the initial phone call participants I gave a brief synopsis of the study, confirmed meeting study criteria, agreed to an audio-recorded interview, and informed of the consent. I gathered demographic information during the initial contact. Upon agreeing to the study during the telephone conversation, I confirmed a mutually agreed interview time and location with each participant. I texted or emailed participants, at their preference, the interview questions to review prior to the study and also a copy of the informed consent. I instructed participants that the informed consent would be available and reviewed a second time at the interview and by signing it, they would consent to the study. I also instructed participants during the initial telephone call that they could drop out of the study for any reason, with no questions asked. In addition, I instructed them that they could call at any time with further questions or concerns about the study.

I collected data through face-to-face personal interviews at the local public library or at the NA meeting location, during a different time when the NA meetings were held. Some participants requested the NA meeting location because they were familiar with the location or were within walking distance to it. I conducted the interviews on weekday evenings and Saturday afternoons, according to the participants work schedule or requested time for the interview. Prior to beginning each interview, I thanked the participants for their time; gave another brief synopsis of the study with their consent for audio-recording via laptop computer with an external microphone; reviewed, signed, and gave a copy of the informed consent; and instructed them to contact the local crisis center

listed on the informed consent for any uncomfortable or stressful feelings that might arise from the sensitive topic of the interview.

I conducted all of the interviews in English following an interview guide (see Appendix A) to aide in consistency between all study participants. The interview guide consisted of nine questions, with some additional probing questions and follow-up questions to draw out a richer detailed explanation. The interviews ranged in length from 20 to 25 minutes. The proposed sample size to meet saturation was speculated to be 15 to 20 interviews. Saturation was met at 15 interviews; however, two additional interviews were scheduled for the following day and were conducted to not cancel at the last minute or turn away participants who wished to be a part of the study. I included all 17 interviews in the study. During data collection there were not any variations from the plan presented in Chapter 3. Additionally, there were not any unusual circumstances encountered in the data collection process.

I wrote field notes during and at the conclusion of each interview to capture the participant's nonverbal cues and body movements. I also recorded my overall perceptions of the interview. I transcribed each audio recording verbatim with Google Docs transcription and saved into a Word document. I reviewed each transcription at least five times for verbatim accuracy. During the transcription review for accuracy, I added reflective notes and journaling for each of the transcribed interviews. I uploaded all 17 of the audio recordings, verbatim transcripts of the recordings, and field notes to NVivo12 for Mac for data analysis and management.

Data Analysis

I uploaded and autotranscribed audio files into Google Docs to produce a verbatim transcript. I manually reviewed transcripts at least five times with the audio

recording to assure accuracy of the transcript. I saved the 17 transcripts as a Word document and manually highlighted each one with different colors for the identification of codes and common themes of the raw data to each interview question and for each research question. I organized and hand coded the data to an Excel spread sheet with the codes and themes from the raw data. I uploaded the Word documents of the 17 transcripts into the qualitative research software NVivo12 for Mac by QSR International. Next, I coded each transcript in the NVivo 12 software. I used the common themes from the raw data into seven categories or codes. I read each of the transcripts in the NVivo software at least three times and copied and pasted the verbatim responses from each participant into each of the seven codes. I used overlapping, uncoding, and subcategories for the text as I continued with refinement of the text. The initial coding changed several times after reviewing the text and codes. I organized the subcategories under the codes to each of the three main research questions. The subcategories allowed me to differentiate between each of the participant's responses about how they viewed illicit substance abuse prevention. Next, I set up NVivo 12 to auto code the interview data. There were not any discrepant cases encountered in the data. I factored all cases into the data analysis. The query generated most of the same themes based on word frequency as was found during the manual coding process.

The seven codes from the research questions included illicit substance initiation age, recovery age, personal recovery reasons, generalized drug testing, school drug testing, school drug testing for self-prevention, and other adolescent drug prevention methods. All of the responses are direct quotes from the participant's perspective to

emphasize their importance. The following section describes participant responses and the common themes identified from the raw data.

Themes

As I read and reread the transcripts, I had to continually think about how I viewed mandatory drug testing in schools and how my own beliefs might influence the interpretations of the data. Therefore, I carefully coded each interview by using the interview questions and the three research questions. I only copied and pasted direct quotations into the codes to develop common themes and prevent researcher bias. The findings yielded 29 core themes from the interview questions. The core themes are identified in Table 2.

Table 2

Core Themes

Core themes (29)	Responses	Frequency of response
Adolescent substance use	15	15
Adult substance use	2	3
Relationships	7	22
Adult drug testing	5	19
Self-determination	4	7
Jail	3	20
Medical providers	5	5
Faith	2	6
Support for drug testing	10	27
Undecided on drug testing	6	22
Opposed to drug testing	1	3
Support for school testing	11	34
Benefits of school testing	11	37
Undecided on school testing	1	3
Opposed to school testing	5	14
Problems with school testing	6	26
Fear of getting caught	11	31
Punishment	1	3

Peer pressure	1	17
Postponement	1	3
Preventative drug testing program	10	41
Good friends	5	36
Substance use education	6	15
Family	2	22
Drug Abstinence	2	7
Church	2	5
Extra-curricular activities	1	4
Detention	1	1
Shame list	1	1

Research Question 1

Age of Initiation of Illicit Substances

In the beginning of each interview, I asked all of the participants what age they began to experiment with illicit substances. I wanted to understand if school age was a typical age for experimenting with substances. Most of the participants initiated substances during middle and high school age.

Adolescent Substance Use. Eighty-eight percent (15/17) of the participants initiated substances during middle and high school, from age 13 to age 18. The mean age was 16.5 years. Although I did not specifically ask them why, some of the participants reported initiating substances with their friends.

Participant #2: Age 16, I got in with some friends, they were doing marijuana and so forth, I did it with them.

Participant #4: Age 17, I did drugs in high school, mostly on weekends.

Participant #7: I was around 15 or so, I was using for a little while.

Adult Substance Use. The other two participants initiated illicit substances at

age 19 and age 26. One began using substances in college at age 19 and the other became addicted to pain medications following surgery at age 26.

Reasons for Recovery

After learning what age the participants initiated substance use, and their age of entering recovery as demographic questions, I asked them a follow up question of the most effective reason for their recovery. I wanted to understand what methods are effective for recovering substance users. All of the participants remembered exactly what caused them to begin recovery. Although 59% of the participants reported multiple reasons that assisted them in recovery, 41% reported only one reason that aided them into recovery. Some common themes included personal relationships, drug testing, self-determination jail, medical providers, and their faith.

Relationships. Personal relationships assisted in helping with recovery for 41% of the former substance abusers (7/17). Some of the relationships include parents, friends, spouse, children, and other family. These meaningful relationships helped the substance user in recovery to not disappoint their loved one or lose the good relationship they had with others.

Participant #3: Girlfriend didn't do drugs. She didn't like me doing drugs.

Participant #7: My mother was pretty strict, threatened by taking my car.

Participant #8: My husband made me go to the doctor and get checked.

Participant #10: Our little girl was born, I had no desire anymore, didn't want to be a dead-beat dad for her.

Participant #11: This NA group, I met people here that help me.

Participant #14: My marriage and my family, fear of losing the one I loved.

Participant #15: Listening to a friend that recently been through recovery.

Adult Drug Testing. Of the participants, 29% (5/17) stated drug testing at work and while on probation was a reason for recovery. When the participants knew they were going to be tested at work or with their probation officer, it deterred them from taking illicit substances.

Participant #4: I got a full-time job that required drug testing.

Participant #6: I got a job and had to do testing.

Participant #9: I had to meet with probation and get tested.

Participant #13: My probation officer came into school and to my house and tested me every week.

Participant #16: I got a job that drug tested.

Self Determination. Another reason given for entering recovery was being self-motivated (4/17). Some of the participants stated their own determination initiated the cessation of using illicit substances and kept them in recovery.

Participant #2: The charm of it wore off, I just decided I'm quitting.

Participant #5: I went to college, I didn't want to fail, I knew if I was doing drugs at school I would fail.

Participant #7: Important to me to try to stay clean.

Participant #11: I was self-determined.

Jail. A few of the participants (3/17) reported that being arrested and placed in jail assisted in their recovery. In jail, they were not able to gain access to any illegal drugs. They had no option but to get clean and recover while in jail.

Participant #1: I couldn't do drugs in jail. Jail, it deterred you.

Participant #9: In jail, you get clean whether you like it or not.

Participant #12: There were no drugs in jail, so I couldn't do it anymore.

Medical Providers. Another reason given for entering recovery was through a medical provider (3/17) and/or a rehabilitation center (2/17). One participant mentioned their family physician assisted in their initiation of recovery, another reported their dentist, and a third stated the hospital. Two of these three participants also stated both their medical provider, in addition to a rehabilitation admission, assisted in their recovery.

Participant #8: My doctor, I had to go to outpatient rehab.

Participant #11: Going to the dentist, I needed false teeth, I knew I had to quit.

Participant #17: I overdosed and went to the hospital. I got placed in rehab.

Faith. Additionally, two participants mentioned faith-based reasons as aiding them in recovery, along with an additional recovery method.

Participant #15: Faith and listening to a friend that recently been through recovery.

Participant #17: New friends and church

General Drug Testing Perceptions

I asked the participants about their perspective about the general idea of drug testing. Of the participants, 59% (10/17) believed the general idea of mandatory drug testing was an "all right thing." Some of the participants were undecided (6/17) about their opinion. They were "not sure" how they felt about it. Only one participant did not support the idea of general mandatory drug testing.

Support for general drug testing. Most of the participants who had experience with drug testing, thought it was “not a bad idea” (10/17) because they understood it helped them to stay in recovery. Some of the respondents who initially “didn’t know”, followed up in the interview by saying “it’d be all right” and “ in some certain settings”, but they did not state what particular settings.

Participant #1: Definitely kept me clean; could be a good thing.

Participant #2: I think it’s a good idea; very good thing to do.

Participant #3: I think it’s good; helps people keep clean; might help them stop.

Participant #4: Helps employers know they have workers that are not impaired.

Participant #6: It’s good. It keeps you aware of what you are doing.

Undecided on general drug testing. Those participants who were not exposed to drug testing in their recovery (6/17) had mixed feelings about drug testing. Since they had no experience with drug testing, they were less inclined to give a definite opinion on it.

Participant #5: That has never happened to me.

Participant #8: I don’t know. I never had to do it. I know lots of work places do it.

Participant #10: I have mixed feelings; not sure what to think about it.

Participant #11: Nothing you can do about it, if you have to do it.

Participant #17: Not a bad idea, but not great either ‘cause you can’t force people into doing it.

Opposed to general drug testing. Only one participant was opposed to mandatory drug testing in general locations. The respondent discussed how he had a

negative experience with it. He “didn’t like it.” He said “it was a pain.” His probation officer was always checking on him and “it was embarrassing and annoying.”

Research Question 2

School Drug Testing Perceptions

After I asked the participants about the general idea of drug testing, I asked them about their perspective on mandatory drug testing in schools. Although 59% of the respondents supported drug testing in the general setting, a higher number, 65% (11/17), supported drug testing in the school setting. The participants that were experienced with drug testing, were more apt to support it in the school setting because “ it saved me.” Only one of the participants was undecided about school testing, as compared to testing in other settings (6/17). However, there were more participants opposed to school testing (5/17) as compared to testing in other locations (1/17).

Support for school testing. Thirteen respondents, or 76%, supported drug testing in school. Only one of all 17 participants actually had experience with drug testing in school. The participant explained the school had a voluntary drug testing program that was self-prompted. He thought the program was a benefit to keep himself and friends drug free.

Participant #2: Definitely a good, good thing.

Participant #5: It’s a good idea. Something that should be looked at.

Participant #15: I would support it 100%.

Participant #16: I am for it because I had to do it in school.

Benefits for school testing. After I asked each of the participants about their perspective on mandatory drug testing in school, I asked them a follow up question if

they had any other comments about drug testing in schools. Some of the respondents discussed how drug testing in school would help with early intervention (3/17), treatment (3/17), and prevention from using substances (4/17). Also, one participant mentioned it could be reassurance for parents that their child was not using substances.

Participant #1: I think it's a good thing. The earlier you can get to these kids, the better.

Participant #2: If they are using drugs to where they get tested positive, they can get the right help they need.

Participant #3: It should be done. It would help a lot of kids like myself not get into drugs.

Participant #4: It would be good. If everyone at the school knows they could be tested, then most kids probably would be too afraid to try it.

Participant #7: Be a good idea. You know you are being watched.

Participant #11: Be a good idea. It would help parents know if their kids was okay.

Participant #16: I am for it because I had to do it in school. It kept me and my friends on our toes.

Undecided on school testing. Only one participant was undecided about the effectiveness of drug testing in schools. He had participated in mandatory drug testing in the past, but had some concerns about using the testing in schools.

Participant #12: I don't know what to think. Do they just test the bad kids? Or what would they do?

Opposed to school testing. Three respondents, or 18%, did not agree with mandatory drug testing in school. Three-fifths of the participants who were opposed to mandatory drug testing in schools had a bad experience with drug testing or did not feel it was in the schools realm to conduct drug testing. One of the participants suggested that drug testing should be conducted by a physician's office.

Participant #8: It is not the schools job to do it. Maybe the doctors' offices should do it.

Participant #9: I don't think it should be done in schools. There would be a lot of problems.

Participant #10: That is not the place for it. They should think of something else.

Participant #13: I don't think it should be done. That is not the schools' business.

Participant #14: It won't work.

Problems with school testing. All of participants who were opposed (5/17) to mandatory drug testing in school had a reason why they were opposed to it. They mentioned that testing would be a problem in itself or other issues that may be encountered with drug testing in school.

Participant #8: That would be hard to do. I don't know how they would do it.

Participant #9: I think there would be a lot of problems. Kids trying to avoid it, trick it, or kids and parents refusing it.

Participant #10: It is illegal to do in school, isn't it?

Participant #13: Kids don't want to be bothered with that at school.

Participant #14: Too many kids would fail.

In addition to those opposed to drug testing in schools, the one participant who was undecided about drug testing in school, also mentioned some issues with the testing.

Participant #12: People might think it was rigged or they were targeted. Some kids might drop out of school if, if they were doing drugs to not get caught.

School Drug Testing for Self- Prevention.

After understanding how each participant viewed mandatory drug testing in school, I asked them if mandatory drug testing in school would have prevented or postponed their substance use as an adolescent. Ninety four percent (16/17) of the participants stated it would have prevented or postponed them from initiating illicit substances during their school years. Of the respondents who were opposed to drug testing in school (5/17), four in five said drug testing in school would have prevented or postponed their drug use during their school years. Most of the participants (14/17) gave a reason why drug testing in school would have prevent or postponed their illicit substance use. The reasons ranged from fear of getting caught, facing punishment, peer pressure, and postponement.

Fear of getting caught. Most of the respondents (11/17) stated the fear of getting caught would have prevented them from using substances in high school. Many of the respondents stated they would be afraid to try any drugs if they knew mandatory drug testing could be done at any time during school.

Participant #1: I might have been busted at an earlier age and scared me.

Participant #2: You could be caught at any time.

Participant #4: Wouldn't have started if I thought I might be tested.

Participant #7: I could show up any day at school and get tested.

Participant #9: Kids would be afraid to do stuff.

Punishment. One of the respondents mentioned that the thought of potential punishment would have prevented her from starting substance use. She did not start using substances until after high school while she was in college. She stated the punishment of being expelled from college would have prevented her from starting substance use, if the college had a drug testing program..

Participant #6: I would have been scared to get kicked out of college.

Peer Pressure. One of the participants stated that mandatory drug testing in school would have prevented their friends from using substances, which could help those students from pressuring other friends to try substances.

Participant #5: Benefited my friends. Helped them not start. Keep them from getting others to try it.

Drug Postponement. Another participant mentioned that drug testing in school would not have prevented his use, but it would have postponed it. He stated he would not have initiated substance in high school if he knew there was drug testing, but would have waited until after high school.

Participant #14: I would have waited until after high school to start to try stuff.

Only one participant stated that drug testing in school would not have prevent her substance use because “I didn’t do it in school.” She had initiated substances later in life at age 26.

Research Question 3

Effective Drug Use Prevention

A final question I asked the participants was their perception of the most effective method for teens to not use substances. Many of the participants had multiple answers (11/17), while others just offered one method (6/17). Although 11 participants supported mandatory drug testing in schools, 10 of the respondents, or 59%, reported a drug testing program in schools would be the most effective method to prevent adolescents from using illicit substances. Other methods they felt to be effective to prevent substance use in teens was good friends, education, extra-curricular activities, family, and abstinence.

School drug testing program. Of the 10 participants who stated drug testing in school would be an effective method for teens to refrain from illicit substances, seventy percent (7/17) reported additional methods to be used along with drug testing. Thirty percent (3/17) stated that testing alone should be used.

Participant #1: Mandatory drug testing.

Participant #2: Definitely testing.

Participant #3: I think testing is a good idea. It dun't hurt to try.

Participant #7: I believe testing them and definitely educating them on the dangers of drug use.

Participant #11: Testing them so they are afraid to do it. And educating them about bad drugs and stuff.

Good friends. Twenty nine percent (5/17) of the respondents thought that good friends who do not use drugs were an effective prevention method against adolescent drug use. Of the five respondents, two mentioned good friends alone, while the other

three respondents mentioned good friends, in addition to other methods of drug prevention.

Participant #1: Mandatory drug testing, having good friends that aren't a bad influence that are good people.

Participant #4: Friends. Good friends. If you have good friends that don't do drugs, then you probably won't.

Participant #8: good friends, keeping busy, and keeping an eye on everything they do.

Participant #13: To hang out with friends who are clean.

Participant #15: Faith and spending time around friends who do not use.

Substance use education. Thirty five percent (6/17) of the participants reported that education is an effective method for drug prevention among teens. Five of the six participants stated additional prevention methods, along with education, are most effective for teen drug prevention. Only one of the participants stated education alone as being effective for drug prevention in adolescents.

Participant #2: I believe education is, is an important tool. And definitely testing. Educating the parents as well.

Participant #6: Educate them. School assemblies with ex drug users telling their story might be good.

Participant #7: Testing them and definitely educating them on the dangers of drug use. Show them pictures of people who had used drugs for years and what it does to them.

Participant #11: Testing them so they are afraid to do it. And educating them about bad drugs and stuff.

Participant #12: Um, lectures from past users, detention.

Participant #16: Preventative drug testing, more education, and people with addiction problems to speak to them.

Family. Two participants mentioned family and parents as an important tool in drug prevention for teens.

Participant #2: One of the major thing is parents. When the parents see a problem take care of it. Take, take care of our child and get them tested, and get them help.

Participant #8: Family time and keeping an eye on everything they do.

Drug Abstinence. Two of the participants stated the best prevention method was to abstain from ever starting to initiate illicit substance as an adolescent. One of the respondents reported abstinence alone. The other respondent reported abstinence along with drug testing in school.

Participant #9: Just don't start. Once you start you can't stop.

Participant #12: Um, for them just to never start. And I guess the testing would help them not start.

Church. Two participants reported church and faith as an effective drug prevention method for teens. These two participants also listed other methods in their answer for drug prevention.

Participant #8: For my kids it's church, good friends, keeping busy...

Participant #15: Faith and spending time around friends who do not use.

Extra-curricular activities. One participant discussed extra-curricular activities to prevent substance use in adolescents.

Participant #3: Well, I think you need to keep them, ah, in like, sports and activities.

In addition, one participant mentioned detention and a shame list as methods for schools to prevent adolescent substance use. The respondent included other methods in his answer for effective drug prevention for teens.

Participant #14: Um, lectures from past users, detention, or post a shame list for peers to see.

Credibility

I demonstrated credibility for this study by showing the link between the findings and reality. I established this through triangulation of sources by using different participants throughout central Pennsylvania with different perspectives on mandatory drug testing in schools. I established analyst triangulation by using my Chair and committee member to review each step in the data collection process and findings. The participants wished for a one-time encounter, therefore, member checking of the transcript was not part of the process. During each interview, I established clarity by asking additional questions when necessary.

Transferability

I established transferability through thick descriptions of the participants' words and details of the study. I provided a rich description of the research method, data collection procedures, and results from the data collected. I also demonstrated

transferability by the variation with participant selection of gender, ethnic, and geographical locations around a large city in central Pennsylvania.

Dependability

I demonstrated dependability through the use of an audio recording device to capture verbatim what each study participant stated during the interview. Dependability was also achieved by having my Chair and committee member review the data to confirm the accuracy of the findings and to ensure the findings were supported by the data collected.

Confirmability

I achieved confirmability by demonstrating that the findings were based on the participants' words and narratives and not my biases. I used direct quotes from the verbatim manuscript of each participant. I utilized an audit trail to explain the details of the process of data collection, data analysis, and my interpretations. I also represented confirmability by my reflexivity through a conscious self-reflection while analyzing the results and by detailed explanations how themes emerged.

Results

Research Question 1: At what age did recovering substance abusers first initiate substance use?

The first research question explored at what age the recovering substance users initiated illicit substances to understand if initiation and experimenting with substances occurs during school aged years. Fifteen participants initiated substances during their teen years while in school. Two participants did not initiate illicit substances until age 19 and age 26, respectively.

Research Question 2: What are the perceptions of recovering illicit substance abusers about mandatory drug testing in schools as a deterrent for adolescents initiating substance use and would it have prevented their substance abuse?

The second research question explored the perceptions of recovering illicit substances users on mandatory drug testing in schools and if drug testing would have helped them to not initiate substances. Seventy-six percent of the participants supported drug testing in schools. The recovering substances users that had experience with drug testing in the past were more apt to support it being used in the schools. Eighteen percent did not agree with school drug testing because they did not think it was the schools responsibility to conduct it. Some other participants had a bad experience with drug testing and did not feel it should be a prevention method. Those that opposed drug testing in schools stated reasons of difficulty in starting a program, problems with students and parents opposing and avoiding it, and that physician's office should conduct it instead of the schools. One participant (6%) was undecided regarding mandatory drug testing in schools for prevention of teen substance abuse.

Although 18% of the participants opposed mandatory drug testing in schools, 90% stated it would have prevented or postponed them from using substances while in school. They mentioned reasons such as fear of getting caught, facing punishment, peer pressure, and postponement of initiating illicit substances until after high school.

Research Question 3: What is the most effective method for substance abuse prevention and recovery for adolescents?

The third research question looked at effective drug prevention methods for teens. Sixty-four percent of the participants thought that a multi-faceted approach would be most effective for adolescent substance abuse prevention in schools, while 36% simply

gave one method for prevention in schools. Fifty-nine percent felt that mandatory drug testing should be included as one of the prevention methods used in schools. The other methods of prevention reported were education (35%) with drug use assemblies and past substance users telling their stories, having good friends who do not use drugs (29%), family, abstinence, church, and extra-curricular activities (11%).

Summary

The purpose of this study was to examine the perceptions of recovering illicit substance abusers on mandatory drug testing in school for drug prevention. Responses from in-depth interviews examined at what age recovering substance abusers initiated illicit substances, how they viewed mandatory drug testing in school, and effective drug prevention methods for adolescents. The first research question explored at what age the recovering substance users initiated substances to understand if initiation of illicit substances occurs during school aged years. All except two of the participants initiated substances during their teen years while in school.

The second research question explored the perceptions of recovering illicit substances users on mandatory drug testing in schools. A majority of the participants supported drug testing in schools. The recovering substances users that had experience with drug testing in the past, were more apt to support it being used in the schools. Those that opposed drug testing in schools stated reasons of difficulty in starting a program, problems with students and parents opposing and avoiding it, and that physician's office should conduct it instead of the schools.

The third research question looked at effective drug prevention methods for teens. A majority of the recovering substance users felt that a drug testing program, in

combination with other methods such as good friends who do not use drugs, education with drug use assemblies and past substance users telling their stories, family, abstinence, church, and extra-curricular activities.

The final sections of this chapter summarized the results and identified the measures used for trustworthiness and quality for this study. The measures used were credibility, transferability, dependability, and confirmability. To establish credibility, I used triangulation of sources and my committee as analysts. Transferability was demonstrated by providing a thick description of the study setting and the variation of participant selection. I ensured dependability by using a verbatim manuscript and by my committee reviewing the data to confirm the accuracy of the findings. Finally, I revealed confirmability by using thick descriptions and direct quotes from the participants, an audit trail, and my reflexivity. In Chapter 5 the interpretation of the findings, limitations of the study, recommendations for future research, and implications for social change will be discussed.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this qualitative study was to explore the perceptions of Pennsylvania recovering illicit substances users regarding mandatory drug testing in schools for adolescent drug prevention. Substance abuse information has been part of school health education programs since the United States Drug Free Schools and Communities Act of 1986 (Collins & Small, 1995). Even with substance abuse education and school programs about the effects of drug use, more than half of all high school students have abused illicit drugs (Johnson et al., 2016). One method to reduce the likelihood of adolescent substance abuse could be mandatory drug testing in schools. Understanding recovering substance abusers perceptions of mandatory drug testing in schools and effective methods for substance abuse prevention and recovery are critical in reducing the substance abuse epidemic.

To explore the phenomena of mandatory drug testing in schools, I conducted in depth, face-to-face interviews with 17 recovering substance users in central Pennsylvania. The findings revealed that most of the participants supported mandatory drug testing in schools. A majority of the participants stated mandatory drug testing in school would have postponed or prevented their substance abuse in high school. Although some of the participants discussed mandatory drug testing in schools as the only substance abuse prevention method, many of the participants reported that a combination of methods, including drug testing, would be most effective. In this chapter, I will interpret the findings, including themes about the research questions and the relationship of themes to existing literature. This is followed by a discussion of the findings in relation to the

conceptual framework used to guide the study. Last, I will present the limitations of the study, recommendations for leaders and future research, implications for social change, and concluding remarks.

Interpretation of the Findings

The research findings provided valuable perceptions of recovering illicit substance users regarding the use of mandatory drug testing in schools for adolescent substance use prevention. The results from this study add to the existing body of knowledge for researchers to obtain a better understanding of the perceptions of recovering substances users regarding mandatory drug testing in school and effective drug prevention practices for adolescents. In the next section, I address the themes from the study and how each theme confirms, disconfirms, or extends the existing knowledge in the discipline found in Chapter 2 and how the findings relate to Pender's model.

Adolescent Substance Use

All of the participants provided the age when they initiated using illicit substances. Most of the participants (88%) initiated substances during middle and high school from age 13 to 18 years. The mean age was 16.5 years. This confirms several studies in the existing literature that nine in 10 people who meet the clinical criteria for substance use disorders involve nicotine, alcohol, or other drugs began smoking, drinking, or using illicit drugs before they turned 18 years old (Columbia University, 2011) and that 65.5% of American adolescents aged 12 to 17 years have engaged in illicit drug use (National Institute on Drug Abuse, 2017). Several participants noted that they initiated substances with friends. Most of the participants stated that, in hindsight, they wished they had something to "help them stop" using substances once they started during

school age. Although substance use and misuse education is available in most schools, it did not prevent many of the participants from initiating illicit substances. Pender's health promotion model aligns with adolescent substance abuse in the context that individuals interact with their environment and are influenced by their peers and pressure to conform to substance abuse and misuse. In addition, the model supports the study that external influences, such as mandatory drug testing in school, could shape and individual's desire to abstain from substance use and promote their own health.

Adult Substance Use

Few of the participants initiated illicit substances after high school. Only two of the participants became addicted to substances after age 18 years. For the adult substance abusers, the length of time in active addiction was significantly less than the adolescent users. The average length of time in active addiction was 3.5 years for the participants that initiated substances after high school, as compared with nearly 8 years in active addiction for those that initiated substances in middle and high school. This study is confirmed by the existing knowledge in the discipline that adult users have a lower risk of addictive disorders than teen users and the earlier they begin using, the higher their risk of becoming addicted (Columbia University, 2011). According to Herman-Stahl, Krebs, Kroutil, and Heller (2007), young adults aged 18 to 25 have a lower risk and protective factors for illicit substance use than those younger than 18 years. After high school teens leave for college, get a job, and do not have the daily connection with other peers who may be using substances or the peer pressure to conform. Using Pender's framework, the study can extend the existing research in understanding what was the

motivational factors that adult substance users were able to promote health and abstain from substances during high school.

Support for School Testing

Most of the participants (76%) supported drug testing in school. The participants who were experienced with drug testing in a positive way were more apt to support it in the school setting because as some participant stated “it saved me” and “kept me and my friends on our toes.” The study confirms existing literature that a drug testing program is more likely to be supported when individuals are informed about the program, understand the consequences, and believe the program was fair and adequate (Nelson et al., 2011). However, this mandatory drug testing in schools study also disconfirms the existing literature that many individuals including students, parents, community members, and the American Academy of Pediatrics does not support mandatory drug testing in schools (DuPont et al., 2012; Levy & Schizer, 2015). A study in Australia found that only 24% of community respondents supported a drug testing in school policy. This mandatory drug testing in schools study revealed that those participants who experienced a substance abuse problem were more apt to support a drug testing program in schools for prevention, as opposed to community members and others who may not have experience with addiction.

Benefits for School Testing

Some of the respondents discussed how drug testing in school would help with early intervention, treatment, and prevention from using substances. One participant stated if the students “know they could be tested, then most kids probably would be too afraid to try it.” Another participant stated, “If they are using drugs to where they get

tested positive, they can get the right help they need.” One participant suggested “The earlier you can get to these kids” to influence and help adolescents from substance use and misuse, the better chance they have for prevention, abstinence, or misuse of substances. An additional participant mentioned it could be reassurance for parents that their child was not using substances. Recovering substances users have firsthand knowledge and experience about how difficult it is to overcome addiction. An overriding theme was that if drug testing in school “was administered properly” and was “mandatory and random” for everyone, it would “help a lot of kids” and “be a good thing” as a deterrent and prevention tool for adolescent substance use and misuse. This study confirms the existing knowledge that a majority of prior research found that student substance use declined after schools implemented a drug testing program (Adelson et al., 2017; Brady, 2011; DuPont et al., 2013; James-Burdumy et al., 2012).

Opposed to School Testing

Eighteen percent of the participants did not agree with mandatory drug testing in school. Many of the participants who had a negative experience with drug testing in the past, did not support it. This study supports the existing research that individuals are unequally divided on their attitudes of drug testing in school (Evans et al, 2006). Some of the participants thought that it should not be done in school, that it was not within the school realm, and that school was “not the place for it,” “not the school’s business,” and that “school is for school.” They thought that school should focus only on academic education. To extend the existing research, an integrated approach in education has seen an increased involvement outside of academics (Darling-Hammond, Flook, Cook-Harvey, Barron, & Osher, 2020). In recent years, many schools are structured to support

the whole child not only with education, but also the emotional, medical, and social aspects as well.

This mandatory drug testing study both confirms and disconfirms existing knowledge about drug testing in school. As stated previously, the study confirms that school should not be the place for drug testing according to pediatricians and others (DuPont et al., 2012; Levy & Schizer, 2015). Yet, the study disconfirms prior literature that among recovering substances users a very small majority were opposed to drug testing in school. According to the literature, schools should focus on the health of the whole child and include drug testing as a school policy. The study also aligns in context with Pender's model that there are numerous conceptual components associated with the model that include behavior modification and situational influences. Mandatory drug testing in school could be the behavior modification and situational influence that is necessary to prevent substance use in adolescents.

Problems With School Testing

Although 76% of the participants supported drug testing in schools, some of them discussed how there would be problems with it. They highlighted how it would be difficult to develop a drug testing program in school. They discussed the possibility of the schools to "not get it approved" by the school board and that students and parents consider it to be "illegal" and "against their rights." The study findings confirm the existing literature for public schools since the 2002 Supreme Court ruling that mandatory drug testing is illegal for all students and can only include students involved in extra-curricular activities (Velasquez, 2010). The study disconfirms the literature since mandatory drug testing in private schools is legal in the United States for all students in

such institutions. Prior literature discussed two issues of high cost of testing and potential inaccuracy of results as problems with school drug testing. Neither of these problems were mentioned by any of the participants in this study.

School Drug Testing for Self-Prevention

Ninety four percent of the participants stated drug testing in middle and high school would have prevented or postponed them from initiating illicit substances during their school years. Coincidentally, of the three respondents who were opposed to drug testing in school, two of them said that drug testing in school would have “probably” prevented or postponed their drug use during their school years. Most of the participants gave a reason why drug testing in school would have prevented or postponed their illicit substance use. The reasons ranged from fear of getting caught, avoid facing punishment, prevent peer pressure from friends, and potential postponement until after high school graduation. This is confirmed by most of the existing research (Adelson et al., 2017; Brady, 2011; DuPont et al., 2013; James-Burdumy et al., 2012) that the incidence of substance use among teens is decreased following the implementation of a drug testing program due to the deterrent nature of the program. This study extends the existing literature that drug testing in school for prevention from illicit substances has not been researched with recovering substance users and has been highly reported to prevent or postpone illicit substances with these participants.

School Drug Testing Program for Teen Prevention

Although 76 percent of the participants supported drug testing in schools, 59 percent thought that drug testing was the most effective for adolescent substance abuse prevention. The literature supports the participants’ perceptions about drug testing as an

effective drug prevention strategy. For research that actually initiated and evaluated drug testing programs through drug testing results, and not student self-reported findings, the drug testing programs resulted in a decrease in teen substance use (Adelson et al., 2017; Barrington, 2008; Brady, 2011; & Nelson et al., 2011).

Seventy percent of the participants for this study reported additional substance abuse prevention methods to be used along with a drug testing program. The methods included illicit drug education from ex-users, drug free friends, family, religious faith, and extracurricular activities. These additional prevention methods align with the existing literature. Multiple substance abuse prevention methods confirm the existing knowledge that a combination of school, community, family, and digital platforms to be the most effective substance abuse prevention strategies (Das, Salam, Arshad, Finkelstein, & Bhutta, 2016).

Drug Education with Ex-Users for Prevention

The recovering substance users thought that substance abuse education, presented by ex-users would be an effective strategy for teens. Schools sometimes invite former drug dependent people to speak to students on the assumption that they will listen to a person who has been through severe drug abuse issues and that they will learn from that experience. This method does not align with the existing literature. According to Dillon (2016), most teens do not believe they will become drug dependent when they start, so it is easy for audience members to discount the former user's problems as not relevant for them. Cahill (2003) uncovered that inviting ex-drug users to speak to students may actually have a negative effect, such as making certain drug behaviors look more attractive or compelling, especially to those with something to prove, those with an

adventurous streak, or to those who are driven to cause themselves harm. However, both of these studies were conducted in Australia with school educators and not students. It would be beneficial to repeat the studies using a longitudinal approach to determine if ex-users have a positive or negative effect on adolescent substance use in the United States.

Drug-Free Friends for Prevention

Some of the participants stated that having “good friends” who are substance-free were an effective method for substance abuse prevention among teens. This method confirms the existing literature that adolescents who have intimate friendships and close friends in school who do not use substances are less likely to initiate illicit substances during school age years. Shadur and Hussong (2014) found that friendships have a strong influence on whether or not a teenager will initiate substance use. They found that peer pressure is a significant factor for a teen to try illicit substances. Having drug-free, good friends is key, but there are additional teens within the school that are using substances and pressuring others to join them. For these students who are using substances, perhaps drug testing in school could assist them from initiating substances. Then, possibly, they would also be the good, substance-free friends and peer pressure during school age to conform to drug use would be decreased.

Family as Prevention

A few of the participants discussed that parents and family would be an effective method for drug prevention among teens. According to the existing literature, a close family connection and parents who are positively involved in their child’s life has an impact on whether or not the teen will get involved with substance abuse. Parker and Benson (2004) uncovered that positive parent-adolescent relations promoted self-esteem

in a teen and decreased the likelihood of substance abuse and delinquency. Johnson (2011) found that a high quality parent-child relationship was a determining factor for teen drug abstinence. Educating families about the positive impact they can have with their teen and substance abstinence is a key drug prevention method for parents, schools, and adolescent health care providers.

Religious Faith as Prevention

A few of the participants reported that religious faith and church assisted them in recovery and would be an effective method for substance abuse prevention among adolescents. The participants stated that they formed a strong belief in God or a higher power, who assisted them to turn from substances. They thought that teens who attend church regularly and have a religious faith that teaches illegal acts, such as drug use, are against the religion or the moral code, may be less likely to initiate substances. The literature supports the perceptions of the participants. Moscati and Lezuk (2014) uncovered that finding religion and faith assisted in substance abuse prevention and recovery. Palamar, Kiang, and Halkitis (2012) discovered that exposing users to religion assisted in recovery and prevention of future substance use. It would be difficult to force families and teens to attend church, but it is essential for school health educators, drug counselors, and community health care providers to discuss the findings about religion on drug use prevention with parents and teens.

Extra-Curricular Activities for Prevention

Some of the participants discussed that “keeping busy,” “sports,” and “extra-curricular activities” would be effective prevention methods for teens to abstain from illicit substances. These three methods confirm the existing literature. Kwan, Bobko,

Faulkner, Donnelly, and Cairney (2014) found that sports participation decreased the likelihood of alcohol and illicit drug use in adolescents. Terry-McElrath, O'Malley, and Johnston (2011) discovered that daily exercise assists in refraining from substance use. They found that higher levels of exercise was associated with lower levels of alcohol, cigarette, and marijuana use. Therefore, schools and parents should encourage and support their students to participate in extra-curricular activities. Moreover, a school drug testing program could be used in conjunction with all extra-curricular activity groups within the school to assist in substance use prevention.

The theoretical framework for this qualitative exploratory study was Pender's health promotion model (Pender, 2011). The assumption of this theory is that individuals seek to actively regulate their own behavior. Individuals interact with the environment by progressively transforming the environment and being transformed over time. Health professionals constitute a part of the interpersonal environment that has an influence on people through their life span (Pender et al., 2011). As the recovering substance abusers in this study reconfigured the person-environment pattern, they reported several factors in the environment that assisted them in substance use recovery such as drug testing, family, church or religious faith, self-determination, and their physician. The participants also reported additional environmental factors that may assist adolescents to remain drug free such as good friends, drug education with ex-users, family, faith, and extracurricular activities. Pender's theory provides a framework to explore the possible use of these internal and external influences that shape people's beliefs about health care and prevention of substance abuse.

The findings can be interpreted through Pender's model as there are numerous conceptual components associated with the HPM that include empowerment, behavior modification, interpersonal influences, and situational influences (Ho et al., 2010). The school, community, family, drug free friends, religious faith, and extracurricular activities can fulfill these HPM components to guide the individual toward health promotion about substance use or misuse by empowering, influencing, and providing behavior modification to the individual. A multi-faceted drug prevention approach could be beneficial for schools to deter students from substance abuse and misuse.

Limitations of the Study

There were few limitations to this study that included memory recall, specific geographical location, limited access, and the potential for bias. The participants were asked to discuss mandatory drug testing when they were in school. Many participants may not correctly recall events that occurred many years prior to the interview. Secondly, all of the study participants resided in a specific location around a large city in central Pennsylvania, which may not reflect recovering substance users outside of the study area. Also, the study participants were limited to establishments that would allow me to access to the location and communicate with recovering substance users. Finally, the limitation to trustworthiness was addressed for researcher bias by using direct quotes from the participants in data collection and coding. The use of reflecting, journaling and using peer researchers of my Chair and committee were also utilized in the study.

Recommendations

This study explored the perceptions of 17 recovering substance users in the Central Pennsylvania region about mandatory drug testing in schools and effective school

prevention strategies for adolescent substance use. The assessment of drug testing attitudes and knowledge in this study revealed the recommendation for comprehensive substance abuse efforts in schools in Central Pennsylvania. To influence adolescents' potential substance abuse, private and public schools should consider a comprehensive drug prevention program that includes drug testing, combined with additional methods of drug education from ex-abusers, friends who are substance free, family involvement, strong religious faith, and promoting participation in extra-curricular activities.

Another recommendation is continued research with recovering substance users across all regions of Pennsylvania and across the United States. The findings from this study offer numerous areas for continued research in various aspects of mandatory drug testing in schools such as exploring a phenomenological or longitudinal study with recovering substance users of what keeps them substance free. Likewise, if mandatory drug testing is not the answer for keeping ex-users substance free, then understanding what is the most effective way for abstaining from substances across their lifespan.

In addition, information provided from some of the participants revealed that mandatory drug testing should not be done in schools, but in physician offices. Research is needed regarding physician attitudes toward routine drug testing in their offices during adolescent wellness examinations for drug prevention. Recovering substance users in this study report a desire to assist adolescents in abstaining from illicit substances from their experience with most effective substance use recovery methods.

Implications

The findings from this study have the potential to create positive social change at individual, organizational, and societal levels. The findings contribute to the existing

information about mandatory drug testing in schools for adolescent substance abuse prevention, as well as additional prevention methods. Additionally, the findings have the capability to enhance awareness and understanding of the importance of mandatory drug testing and its potential positive impact on the substance abuse epidemic for federal and state legislators, school administrators, school boards, school nurses, parents, and community members.

At the individual level, knowledge gained from this study can be used to impact the adolescent by providing substance abuse prevention programs of mandatory drug testing in schools, along with other prevention methods, to deter teens from substance abuse and misuse. If adolescents are deterred from using illicit substances during high school, then, potentially, they might remain substance free throughout their lifetime. As some of the participants stated, if most teens are “too afraid to try to try it” because of a school drug testing policy, then most of the students in the school could be the “good friends, who do not use” as a secondary prevention strategy. When a majority of the student body in a school is drug free, then the likelihood of peer pressure to initiate substance use would be decreased. The findings of this study could potentially decrease substance use in adolescents if a mandatory drug testing policy with additional drug prevention strategies are utilized in schools.

At the organizational level, results of this study can be used to influence local, state, and federal policy makers to promote and require mandatory drug testing programs in every school for students in all extracurricular activities. Thus, by disseminating the findings of this study, I desire to bring a general awareness to my local school district and

advocate for mandatory drug testing in all schools as part of a larger scale drug prevention program.

At the societal level, this study has the potential to positively affect social change with the illicit substance abuse epidemic locally, nationally and globally. If adolescents being deterred from using illicit substances during high school would decrease the likelihood of later use, then, potentially, there would be an improvement in the illicit substance abuse epidemic.

Conclusion

In conclusion, based on the data analysis and the results of this study, I was able to determine from the recovered substance abusers that more of them initiated illicit substances as an adolescent from age 13-18, than as an adult. Additionally, the results revealed that mandatory drug testing in school is supported by most of the recovered substance abusers that participated in the study. They stated drug testing “saved me” and “kept me clean.” One of the goals of Healthy People 2020 is to reduce substance abuse to protect the health, safety, and quality of life for all, especially children (National Institute on Drug Abuse, 2017). Currently in most schools, other than substance abuse information given to adolescents in school assemblies, health class, and during Red Ribbon Drug Prevention Week, there are no other techniques offered to assist adolescents to refrain from illicit drug use (Sharma & Branscum, 2013). Therefore, it is essential for schools to implement the drug prevention methods revealed in this study to potentially delay the use of drugs during adolescence.

Very few of the participants opposed drug testing in schools and those that opposed the testing had a prior negative experience with drug testing. According to the

study, mandatory drug testing is not the only effective method for substance abuse prevention in schools. Other methods such as a comprehensive drug education program using family involvement, drug-free friends, a strong faith belief, and extracurricular activities should be included.

The study was guided by Pender's Health Promotion model. In alignment with the model, by examining the health behaviors and situational influences among adolescents and incorporating behavior modification using mandatory drug testing as part of a comprehensive substance abuse prevention policy, schools can appropriately determine a plan of care and interventions to keep students substance free. By implementing mandatory drug testing in schools, as this study supports, as an effective means for deterring individuals from using illicit substances, perhaps the high number of adolescents who have abused illicit substance would be decreased. If adolescents would be deterred from using illicit substances in high school and later in life, then, potentially, the illicit substance abuse epidemic would be improved.

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Appendix A: Interview Guide

Participant Code:

Date:

Location:

Time Started:

Time Stopped:

Total Interview Time:

Supplies for interviews

- Private location
- 2 comfortable chairs
- Consent form
- Tape Recorder and extra set of tapes
- Batteries and extra set of batteries
- Interview guide
- Tissues
- Notebook
- Pen

Explanation of informed consent and consent forms for interview participants will be completed prior to beginning the interview.

1. Introduction/Welcome:

Thank you for agreeing to participate in the research study I am conducting. My name is Julie Bowser and I am a PhD student at Walden University. I am conducting this study to fulfill the requirements for the degree of Doctor of Philosophy in Nursing Education. The interview today will take about 30 minutes and will include 9 questions regarding your insight toward substance abuse prevention and recovery and mandatory drug testing in middle and high schools. I would like to tape record this interview, so that I do not miss any parts of the interview and can accurately document all of the information. Your participation in this study will remain confidential and no information will be used to identify you. I understand that the topic is sensitive and may stir up uncomfortable memories of the past. If at any time you wish to stop or take a break, please let me know. I am providing you with a copy of the Altoona Crisis Center information. If participating in this interview and study triggers any emotional or psychological distress, I would encourage you to call the crisis center for free support services and counseling.

The information you give will be used to gain a better understanding of how substance use among teens can be postponed or prevented. The purpose of this study is to gain a deep understanding of what is the most effective strategy to prevent substance use among adolescents.

Your participation in this interview is completely voluntary. You may withdraw from the study at any time without consequence. Do you have any questions or concerns before we begin?

Then with your permission we will begin the interview.

BEGIN TAPE RECORDING

2. Interview Questions :

- 1) At what age did you initiate substance use?
- 2) What age did you begin recovery?
- 3) What caused you to begin recovery?
- 4) What was the most effective method in your recovery?
- 5) Tell me what you think about mandatory drug testing.
- 6) Tell me what you think about mandatory drug testing in schools.
- 7) Do you think mandatory drug testing in school would have prevented or postponed your substance use?
- 8) What do you think are the most effective methods for teens to not use substances?
- 9) Do you have any other information or comments that you would like to give about mandatory drug testing in schools?

3. Conclusion:

This concludes our interview. Thank you so much for coming and sharing your thoughts and opinions with me. If you would like a progress update or a copy of the study, please contact me and I will provide you with the information. Thank you, again, for your participation.

Have a wonderful rest of your day!

Appendix B: Recruitment Poster

YOU ARE INVITED!!!

To participate in a
Research Study

about your experience with

Drug Abuse and Recovery
and your options on
Mandatory Drug Testing in Schools
For Adolescent Drug Prevention

Your experience and insight can be valuable to help others!!!

If you are:

24 years old or greater
Recovered from drug use for 3 years or greater
Willing to discuss your past experience and opinions
Able to complete a 30-minute, audio-recorded interview
Able to provide transportation to Altoona Public Library

Please call/text or email the researcher:
Julie Bowser, RN, MSN, CSN
at
814-505-7264
or
julie.bowser@waldenu.edu

Appendix C: Consent Form

You are invited to take part in a research study about mandatory drug testing in schools for the prevention and cessation of substance abuse by adolescents. The researcher is inviting adults, age 24 or older, who are recovered drug abusers and willing to discuss their drug abuse history to be in the study. This form is part of a process called “informed consent” to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Julie Bowser, who is a doctoral student at Walden University.

Background Information:

The purpose of this study is to learn the perspective of recovered drug abusers about their drug abuse experience and recovery and if mandatory drug testing is an effective method for substance abuse prevention and recovery.

Procedures:

If you agree to be in this study, you will be asked to:

- Meet with the researcher for a face-to-face, 30-minute audio-recorded interview
- Provide your own transportation to and from the Altoona Public Library for the interview
- Provide honest answers to the interview questions
- Ask any questions about the study
- Contact the Altoona Crisis Center at 946-7300 or your personal medical provider if the study causes any negative emotional or psychological feelings
- Tell others who are eligible for the study to contact the researcher if they would like to participate in the study

Here are some sample questions:

- At what age did you initiate substance use?
- What age did you begin recovery?
- What caused you to begin recovery?
- What was the most effective method in your recovery?
- What do you think about mandatory drug testing?
- What do you think about mandatory drug testing in schools?
- Do you think mandatory drug testing in school would have prevented you from initiating substances? Why?
- What do you think are the most effective methods for teens to not use substances?

Voluntary Nature of the Study:

This study is voluntary. You are free to accept or turn down the invitation. If you decide to be in the study now, you can still change your mind later. You may stop at any time.

Risks and Benefits of Being in the Study:

Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as fatigue, stress or becoming upset. The study involves a sensitive topic of substance abuse and may involve more than a minimal risk of triggering emotional or psychological distress from discussing past substance abuse events. These

risks will be minimized by focusing more on prevention and recovery efforts and mandatory drug testing in schools topic and not your past history with substance use. If the study triggers emotional or psychological distress, you are encouraged to contact the Altoona Crisis Center at 946-7300 for free support services and counseling.

Being in this study involves some benefits such being a direct contributor to the body of knowledge about mandatory drug testing in schools and what could assist adolescents from initiating substance abuse. Another benefit to the larger community is that your participation in this study could assist in finding a solution to the adolescent substance abuse epidemic.

Payment:

There is no payment for participating in this study.

Privacy:

Reports coming out of this study will not share the identities of individual participants. Details that might identify participants, such as the location of the study, also will not be shared. The researcher will not use your personal information for any purpose outside of this research project. Data will be kept secure by using codes in place of names, storing names and consent forms in a locked file separate from the data, securing computer files with password protection, and destroying all data after 5 years. Data will be kept for a period of at least 5 years, as required by the university. In the event that the interview uncovers an unreported felony or elder/child abuse, the information will necessitate reporting to the proper authorities.

Contacts and Questions:

You may ask any questions you have now. Or if you have questions later, you may contact the researcher via email at julie.bowser@waldenu.edu or 814-505-7264. If you want to talk privately about your rights as a participant, you can call the Research Participant Advocate at my university at 612-312-1210. Walden University's approval number for this study is _____ and it expires on _____.

The researcher will give you a copy of this form to keep.

Obtaining Your Consent

If you feel you understand the study well enough to make a decision about it, please indicate your consent by signing below.

Printed Name of Participant _____

Date of Consent _____

Participant's Signature _____

Researcher's Signature _____